

The STATE *Of The* STATE'S *Labor Markets*



Executive Briefing

November, 2002

Labor Market Information Division

Employment Development Department

www.calmis.ca.gov

Dear Colleagues:

My Department is once again proud to present the November 2002 edition of *The State of the State's Labor Markets* report. This report is published to provide an overview of the economic conditions of California and its regions, including analysis of the industry and regional details that tell California's story.



During 2001, California suffered a slowdown in high technology, and some other key industries within the State, and shared in the shock of the September 11th attack on our nation. Responding to the lead of Governor Gray Davis, the Employment Development Department quickly provided unemployment benefits for individuals who lost their jobs and assisted people in finding new employment.

All of us faced with making decisions in a changing economic environment can use this report to develop strategies that will increase California's economic well-being and improve the effectiveness of programs. We hope you find this report informative and useful in describing California's labor markets. This report and others can be found on our EDD Web site, <http://www.edd.ca.gov>, under Labor Market Information.

Sincerely,

A handwritten signature in cursive script that reads "Michael S. Bernick".

**MICHAEL S. BERNICK, Director
Employment Development Department**

TABLE OF CONTENTS

PURPOSE AND SCOPE	iii
EXECUTIVE SUMMARY	v
ACKNOWLEDGMENTS	vii
 <u>Chapter 1</u>	
TRENDS AND OUTLOOK	1
The Long Expansion Ends	1
2001 Job Growth	3
Unemployment Rate	4
Reasons for Unemployment	7
Mass Layoffs	9
Economic Outlook and Forecasts	10
Summary	13
 <u>Chapter 2</u>	
FACTORS AFFECTING THE OUTLOOK	15
The National Economy	15
International Trade	16
High Technology Markets	18
The Energy Crisis	19
Consumer Spending	20
Housing	22
 <u>Chapter 3</u>	
LABOR MARKET KEY TOPICS	25
Effects of September 11, 2001	25
Census 2000	29
New Unemployment Rate Data for Asians	32
Further Thoughts on Ethnic Diversity	33
Summary	33

Chapter 4

INDUSTRY EMPLOYMENT	35
Sector Job Growth	35
Job Growth in 2001	37
Construction	38
Services	39
Trade	41
Manufacturing	43
Government	45
Summary and Outlook	48

Chapter 5

OCCUPATIONAL EMPLOYMENT	51
A Modern Economy Depends on Hundreds of Occupations	51
Production and Professional Occupational Groups Affiliate the Most Occupations and Fill the Most Jobs	54
The Greatest Number of Jobs are in Occupations with Mean Wages Near \$11 per Hour	55
Over Half of the Jobs are in Occupations that Require On-the-Job Training Only	58
Unemployment Rates Vary by Occupation	61
The Unemployed are Represented in Hundreds of Occupations	62
Professional Occupations Will See the Most New Jobs and Fastest Rate of Job Growth	64
Summary	67

Chapter 6

REGIONAL CONDITIONS	69
Nine California Regional Economies	69
Unemployment has Persistent Geographic Pattern	70
Job Growth is Concentrated in Five Regions	72
Slower Job Growth in Southern California	74
Bay Area Feels Brunt of Slowdown	77
Southern Border Moves into Lowest-Rate Position	81
Greater Sacramento Leads Regions in Pace of Construction and Manufacturing Growth	83
San Joaquin Valley Holds Steady in the Slowdown	86
Summary	89

GLOSSARY	91
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PURPOSE AND SCOPE

The State of the State's Labor Markets report is intended to brief the Governor and other officials involved in statewide economic assessment and policymaking on the status of California's labor markets. The report provides an overview of the State's economic condition and the key factors affecting California's labor markets. The Employment Development Department's Labor Market Information Division (LMID) provides this information as a result of its unique role in generating and analyzing official labor force and payroll employment statistics for California. The LMID staff are available to provide additional information or answer questions from state policymakers, researchers, the economic development community and other interested parties.

The first chapter of the report reviews current trends and the outlook using monthly labor market statistics through March 2002. Chapter 2 examines the factors affecting the economic outlook while Chapter 3 summarizes the topics that will most significantly affect State labor markets in the coming years. Chapter 4 presents a more detailed look at industry data. Chapter 5 presents occupational data, which are included for the first time in this report. Chapter 6 presents the industry data focusing on sub-state employment trends and prospects.

This report was prepared using labor market data through final estimates for March 2002 based on the 2001 benchmark¹. Readers will find definitions of terms used throughout the report in the Glossary.

¹ The annual benchmark process includes the review and revision of labor market statistics to reflect more complete information than is available at the time monthly estimates are first made.



EXECUTIVE SUMMARY

TRENDS AND OUTLOOK

After a nearly eight-year climb, the economy started riding the business cycle downhill in 2001. The recession cost California 57,000 nonfarm jobs from its peak level in January 2001 to the most recent reading in March 2002. This loss is small compared to the size of our economy – less than one half of 1 percent of the State's 14.7 million total nonfarm jobs. The loss is smaller than in previous recessions and small relative to the U.S. job loss.

However, the recession has been many times more costly in terms of higher unemployment. From January 2001 to March 2002, the number of unemployed Californians rose 336,000, or 42 percent. A big jump in unemployment despite a modest loss in employment is the result of continued rapid expansion in the labor force – 1.6 percent in 2001.

After recording a 30-year low unemployment rate of 4.7 percent from December 2000 to February 2001, the State exceeded the 6 percent threshold in November 2001. As of March 2002, the California unemployment rate was 6.5 percent.

Predictors think a very shallow recovery may have begun in early 2002 judging from gains in the gross domestic product and other economic indicators. Even in "recovery," job growth in 2002 is forecast to range from negligible to negative (0.2 to - 0.5 percent). It will be 2003 before nonfarm job growth in the State is expected to grow by 2 percent.

Since employment must increase more rapidly than the labor force in order to lower unemployment, a "jobless recovery" means that the unemployment rate and the number of unemployed may remain at elevated levels for several more years. The 2002 annual average unemployment rate is expected to approach 6.5 percent and the number of unemployed may stay above 1 million.

CALIFORNIA AFFECTED BY U.S. SLOWDOWN

A number of factors contributed to derailing the California economic expansion in 2001. Most significantly, the national economy slowed markedly and eventually contracted. With the U.S. being the State's largest market, this lowered aggregate domestic demand for California-made goods and services. Real gross domestic product (GDP) rose more than 4 percent annually from 1997 to 2000, but rose only 1.2 percent in 2001.

Moreover, since the U.S. slowdown extended to global markets, foreign demand for California products fell.

Particularly damaging for California has been the reversal in business investment in high technology equipment and software. Gross private domestic investment fell by 8 percent in 2001, a sharp reversal from the annual increases of 7 percent or greater from 1996 through 2000.

ENERGY AND SEPTEMBER 11, 2001

The energy crisis was one of the most widely publicized threats to the California expansion throughout the summer of 2001. However, there were in fact no blanketing blackouts or lasting production disruptions.

Most economists consider the tragic events of September 11th to have added to the weakness of an economy already in recession. As a major travel destination and transportation hub, the State was immediately affected by the grounding of commercial aircraft in the days that followed the attack and subsequent cuts by the airlines. California lost 12,000 jobs in October 2001 and 44,000 jobs in November 2001. Job losses were greater nationally in the months following the attacks, suggesting that the initial effects of the attacks fell more heavily on other states than on California. The air transportation, hotels and other lodging, and amusement and recreation services industry classifications were the segments of the travel industry most affected by the attacks.

CALIFORNIA'S REGIONS ARE DIVERSE

Although regional unemployment rates in California vary widely, ranging from a low of 3.9 percent in the Southern Border to a high of 11.9 percent in the San Joaquin Valley in 2001, they follow a persistent geographical pattern. The largest urban regions along the coast tend to have the lowest unemployment rates because their greater diversity of industries means job losses in one industry have less effect on the total employment. Higher unemployment rates tend to persist in agriculturally dependent regions where hiring patterns are highly seasonal and in regions with a higher proportion of high unemployment rate populations, such as youth and Hispanics.

Each of California's nine regional economies saw uninterrupted annual average job gains from 1997 to 2001. However, in 2001 the pace of growth slowed in most regions. The five most populous regions – Southern California, the Bay Area, Southern Border, Greater Sacramento and San Joaquin Valley – accounted for 95 percent of the total regional job growth from 1997 through 2001. In 2001, the Southern Border region surpassed the Bay Area region as the region with the lowest unemployment rate.



ACKNOWLEDGMENTS

This report was prepared by Paul Wessen and Janet Austin, with contributions from Marilyn Smith and Judi McClellan. Research support was provided by Rob Corkin, Charlotte Starn and Mary Klaas-Schultz, under the direction of Tad Funakoshi. Industry prospects were analyzed by Alice Schwander, Pat Nolan, Sarah Monteverde, David Burkholder, George Campbell, Jeff Lundberg, Maddy Lotto, Vivian Gerlach and Anita Grijalva-Endsley, under the direction of Larry Thommen. Technical support was provided by Robin Singleton. Ken Budman, Bonnie Graybill, Carl Hedlind, Janet Peters and other staff provided expert consultation regarding occupational data. The report benefited from the reviews of Larry Thommen, Tamara Garcia and Dick Ficenec, in the Labor Market Information Division (LMID). We would like to thank Ed Kawahara, Technology, Trade and Commerce Agency, Howard Roth, Department of Finance, and Alicia Bugarin, California State Library, for their expert review.

Any errors or omissions are our own. For questions concerning this report, contact Paul Wessen at (916) 262-2325. For additional copies of the report, contact LMID's Publication Center at (916) 262-2162. Updated employment statistics are available monthly on the LMID home page at www.calmis.ca.gov.

RICHARD J. HOLDEN, Chief
Labor Market Information Division



Chapter 1

TRENDS AND OUTLOOK

The year 2001 began with a national economy in flux – the long national expansion ended and a recession began. California employment turned down on a month-over basis after years of growth and the unemployment rate turned up after improving steadily for years. Labor market statistics on the number of job losers, mass layoffs and unemployment rates by demographic group also reflected the turning point. California's leading economic forecasters now agree that the worst of the economic decline is over, and expect the second half of 2002 to be marked by slow improvements.¹

THE LONG EXPANSION ENDS

U.S. economic indicators began to weaken in late 2000. The weakness was initially limited to the manufacturing sector, but became more widespread as 2001 progressed. Economists disagreed as to whether or not the U.S. would experience an actual recession – often defined by rule of thumb as “two consecutive quarters of negative growth in real U.S. gross domestic product (GDP).”

In practice, business cycle turning points are dates designated by the National Bureau of Economic Research (NBER). Rather than the GDP rule, NBER abides by the following definition of recession:

A recession is a significant decline in activity spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and wholesale-retail trade. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough.²

Recessions are usually declared after the fact, as data accumulate and are revised. The NBER declared in November 2001 that the U.S. economy had fallen into a recession eight months earlier, in March 2001.

¹ This chapter was prepared using monthly labor force statistics through March 2002. Particularly during these times of changing directions in labor market trends, readers are encouraged to visit the LMID Website for statistics available since this report was prepared. Both monthly and annual average estimates are based on the March 2001 benchmark. Five years of historical data used in this report are subject to the next benchmark revisions that will be published in February 2003.

² Business Cycle Dating Committee, National Bureau of Economic Research, “The Business-Cycle Peak of March 2001,” November 26, 2001.

The terrorist attack upon the nation on September 11th affected not only economic statistics in the months following the attack, but also the interpretation of data for the months preceding the attack. The most influential economic indicator in NBER's decision was the monthly total U.S. payroll employment, which peaked in March 2001. The GDP was of little importance in their decision. It registered its first quarterly decline in the third quarter of 2001, six months into the official recession.

California business cycles are identified relative to the corresponding U.S. business cycle. Specifically, state turning points are the months when seasonally adjusted total nonfarm payroll employment is at its highest (or lowest) level since the last turning point in the U.S. business cycle. Following this reasoning, the previous turning point in the U.S. business cycle was a trough in March 1991 (when expansion was replaced by recession). The highest level of California nonfarm payroll employment since then was 14.7 million jobs in January 2001. Hence, January 2001 marks the end of the expansion and the beginning of the downturn analyzed in this report. This is similar to past experiences, with the downturn in California job growth generally occurring within three months of the U.S. recession start.

The recession in California has been tentative, as monthly payrolls both rose and fell on an irregular basis from January 2001 to March 2002. Total payrolls were just 8,000 jobs lower

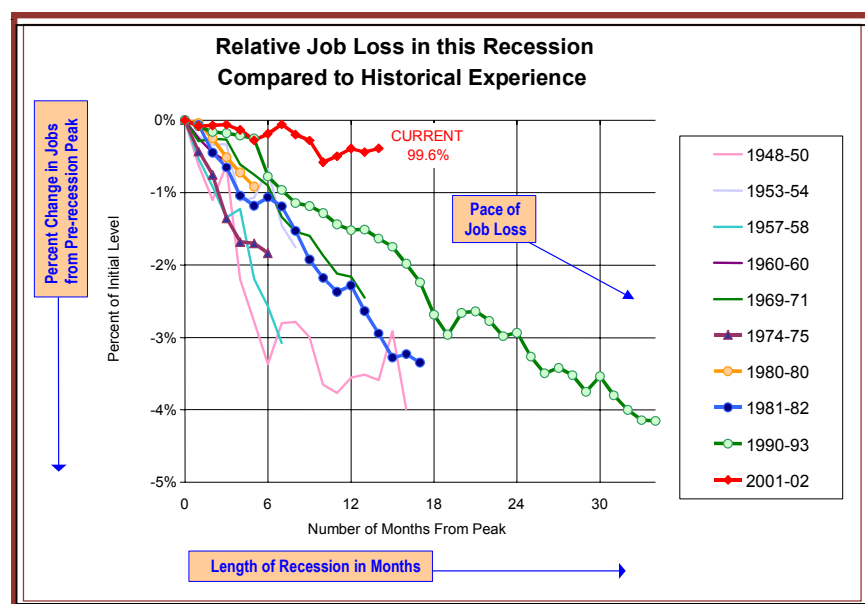


Figure 1-1

The decline in California jobs during this recession is shown in red. The downturn has lasted 14 months (seen by the length of the line). The monthly pace of job loss has been relatively slow (seen by the slope of the line). Nonfarm payrolls are down 0.4 percent.

than the January 2001 peak as recently as August 2001. The longest string of consecutive monthly losses was September through November 2001, when 77,000 jobs were lost.

The recession has brought only a small net job loss.³ Through March 2002, nonfarm payrolls had declined just 57,000 jobs, or 0.4 percent. This is a smaller relative loss than was recorded at this point in any previous recession. (See Figure 1-1, previous page.)

The recession has nevertheless been costly in terms of unemployment because of continued strong growth in the labor force. Simply put, the number of Californians seeking work is up, but there has been insufficient job growth to accommodate all job seekers. Since January 2001, the number of unemployed Californians rose 336,000, or 42 percent, while civilian employment was nearly unchanged, declining by just 1,000 persons.⁴ As a consequence, the unemployment rate rose by 1.8 percentage points. Still, this is less than the rise in unemployment at similar stages in previous recessions.

2001 JOB GROWTH

California's employment growth drove nonfarm job growth nationwide before the start of the recession. Although California makes up just one-ninth of nationwide payroll jobs, it accounted for more than one-third of new U.S. jobs from March 2000 through March 2001, the year before the national recession. Since March 2001, California has contributed only three percent to the nationwide decline in total nonfarm payrolls.

As shown in Figure 1-2, job growth in California outpaced the nation in 2001, as it has each year since 1996. On an annual average basis, California's payrolls rose 208,000 jobs, or 1.4 percent, in 2001. In comparison, U.S. job growth was only 0.2 percent in 2001.

Nevertheless, a slowing national economy, particularly the sharp downturn in technology investments, has been a drag on the State as evidenced by the plummet in job growth from 2000 to 2001. The annual average job growth in 2001 mutes the effect of the recession.

³ Job losses discussed here are sample-based employment estimates and are subject to benchmark revisions. It is known that sample-based estimates tend to underestimate employment declines during recessions and employment gains during expansions because employers in the sample do not fully reflect employment changes occurring from business births and deaths.

⁴ Throughout most of this chapter, employment refers to the number of jobs on employer payrolls. In this paragraph, civilian employment refers to the number of persons with a job, including those not working for employers (such as the self-employed) and those working in the farm sector. See the glossary for further information.

Specifically:

- Monthly data show California actually lost 27,000 jobs in the year ending December 2001, compared to 486,000 jobs added from December 1999 through December 2000.
- Quarterly average nonfarm employment fell 45,000 in the fourth quarter of 2001.
- California lost an average of 2,000 nonfarm jobs each month of 2001, compared to an average monthly gain of 41,000 nonfarm jobs in 2000.

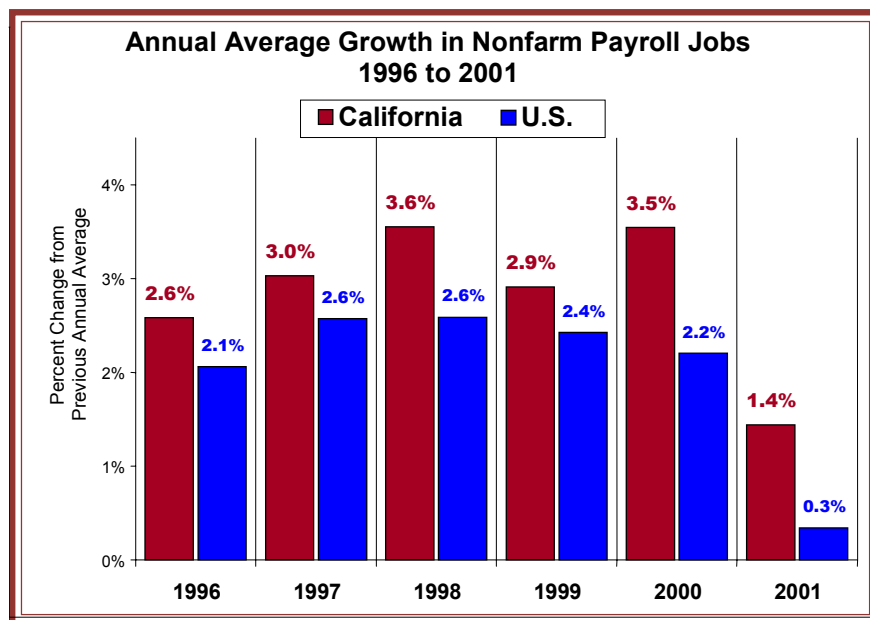


Figure 1-2

California nonfarm job growth outpaced job growth nationwide since 1996.

UNEMPLOYMENT RATE

After seven years of steady improvement, the California unemployment rate reached a 30-year low of 4.7 percent from December 2000 to February 2001. The rate then rose for nine months beginning in March 2001, reaching 6.1 percent in November 2001. The rate was 6.5 percent in March 2002.

One of the consequences of California's long-lived economic expansion has been the convergence of the California and U.S. unemployment rates. As of March 2002, the California rate was within 0.8 percentage point of the U.S. rate, which was 5.7 percent. The convergence means that California job seekers are now having about the same success finding work as job seekers nationwide (see Figure 1-3).

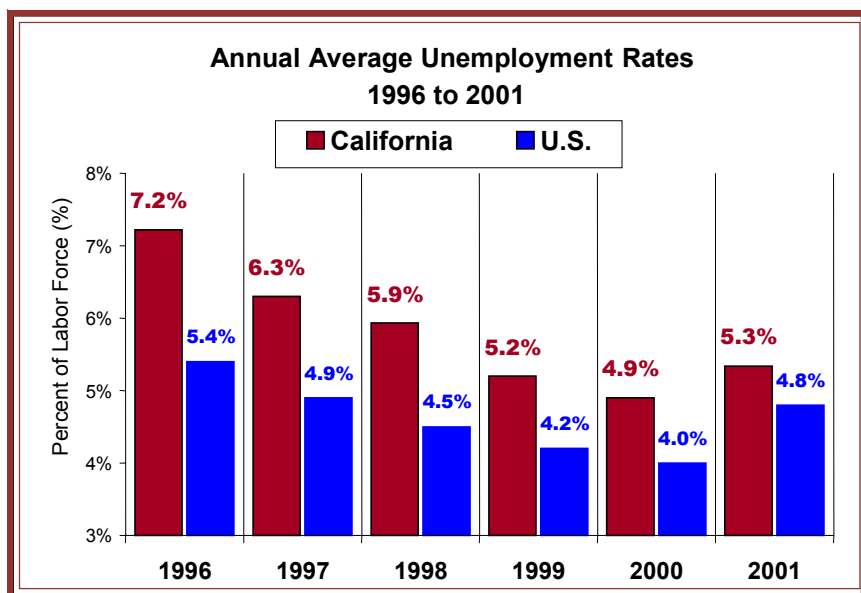


Figure 1-3

The 2001 annual average unemployment rate was 5.3 percent, up from 4.9 percent in 2000. The 2001 rate was lower than in the first six years of the 1993-01 expansion.

Will the two rates remain close or diverge in the next several years? History indicates that the relationship between the State and U.S. rates persists for a decade at a time. The rates were close in the 1980s, but were separated by a consistent difference in the 1970s and 1990s, as shown in Figure 1-4.

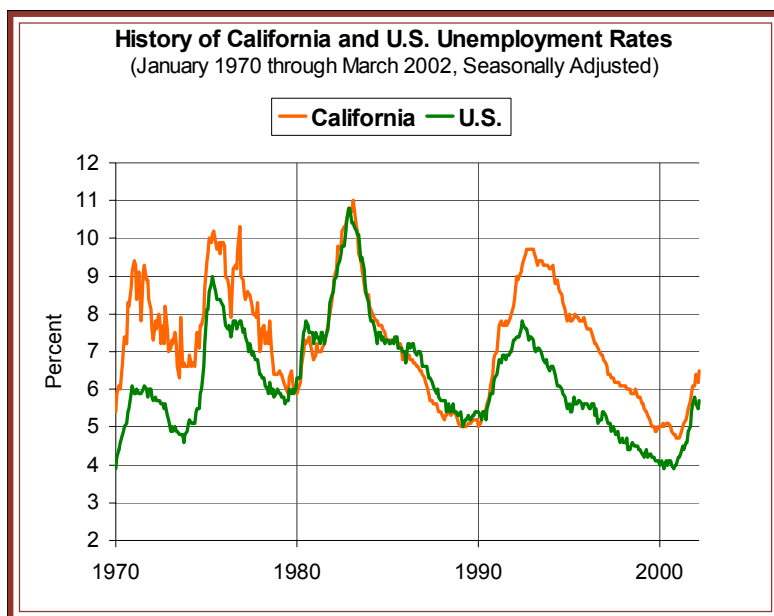


Figure 1-4

The State unemployment rate was a full two percentage points higher than the U.S. rate continuously from August 1992 through April 1996. The largest divergence between the State and U.S. rates was 2.8 percentage points in May 1994. The rates were closest in December 2001, when they differed by 0.3 percentage point.

This suggests that the two rates will remain close until there is a “shock” to, or change in, California’s labor markets that is not experienced in other parts of the nation, or vice versa. The two factors that have prompted differences in the past are relative population growth and the fortunes of California-specific industries. When California has experienced record-breaking population growth, such as in the 1970s, the State rate was higher than the U.S. rate. When industries on which California is dependent falter, such as aerospace in the 1990s, the State rate is higher. Population spikes and industrial restructuring take a long time to work out.

We believe that the California rate will remain close to the U.S. rate in the first decade of the new millennium.⁵ California’s population is projected to expand about 2.0 percent per year from 2001 through 2003, below the long-term average, and on par with the national population growth.⁶

Although this recession is concentrated in a California-specialized industry – high technology – the job losses are cyclical and in the tens of thousands of jobs. Aerospace and defense restructuring in the early 1990s, on the other hand, eliminated hundreds of thousands of jobs that were not to be regained.

As the saying “a rising tide lifts all boats” suggests, there was an almost continuous drop in annual average unemployment rates across demographic groups in California from 1993 through 2000.⁷ In fact, the greatest improvements were to groups with the highest rates, shrinking differences between them and other traditionally lower-rate groups. California unemployment rates by race and ethnicity, in particular, were converging until the recession. In March 2001, just 2.5 percentage points separated the highest rate – 7.3 percent among blacks – from the lowest rate – 4.8 percent among whites.⁸

However, some studies have reported that when “the tide is going out,” workers with less attachment to the labor force and those with fewer skills will tend to feel the effects of the downturn first. Demographic groups with a large percentage of such workers were the first to experience higher unemployment rates as a consequence of the recession.

⁵ The September 11, 2001 attacks on America are a “shock” whose initial impact fell more heavily on other states than on California. Its effects are discussed in Chapter 3.

⁶ California Department of Finance, Budget Letter 01-32, 2002-03 Price Letter, August 28, 2001.

⁷ The exception is the unemployment rate among blacks, which rose 0.1 percentage point from 1996 to 1997.

⁸ In this discussion, which relies on monthly trends, race groups (i.e., white, black, other) are not Hispanic exclusive. Monthly data are a 12-month moving average of not seasonally adjusted data.

This phenomenon seems to be occurring among blacks who have a lower-than-average labor force participation rate than do other races. From their recent lows to rates in March 2002, unemployment rates for blacks rose 2.4 percentage points, while rates for Hispanics and whites rose 0.9 and 0.8 percentage point, respectively.⁹

Persons 16 to 19 years old who, by their very age have less experience and skills than older workers, had the greatest increase in unemployment rates of any age group during the recession to date. Unemployment for the group was at an expansion-low of 15.1 percent in August 2001 and was up 2.5 percentage points, to 17.6 percent, in March 2002. Fewer than half of Californians in this age group work, compared to 80 percent or more among persons 25 to 54 years old. Interestingly, seniors (those at least 65 years old) have seen a relatively modest increase in their unemployment rate during the recession – up just 0.4 percentage point from its October 2001 low of 3.3 percent to 3.7 percent, a lower rate than for persons 45 to 64 years old.

Even though the participation of women in the labor force has risen in the past two decades, it remains substantially below the participation of men. Fewer than 60 percent of women 16 years of age or older are in the labor force compared to more than 75 percent of men of working age. Women generally experience higher unemployment rates than men by about 0.3 percentage point. However, California women have been entering the labor force at half the rate of men since the recession began. This has held increases in their rate below the increases in the rate experienced by men. The March 2002 unemployment rate for women was 5.8 percent, the same as the rate for men.

REASONS FOR UNEMPLOYMENT

The most obvious reason for unemployment – loss of a job – accounts for the largest group of unemployed, but there are other reasons for unemployment as well. The next most frequent reason for being unemployed is labor force reentrance. Reentrants are people who have worked before but who were neither working nor looking for work immediately previous to their current period of unemployment. Job leavers – people who voluntarily left their previous job to undertake a job search, and new entrants – people who have never worked or looked for work before, are the other two primary categories of the unemployed.

⁹ The recent low unemployment rate for blacks was 7.3 percent in February and March 2001. The lowest rate for whites was 4.7 percent in May through September 2001. Hispanics recorded their lowest rate of 6.4 percent in August through November 2000.

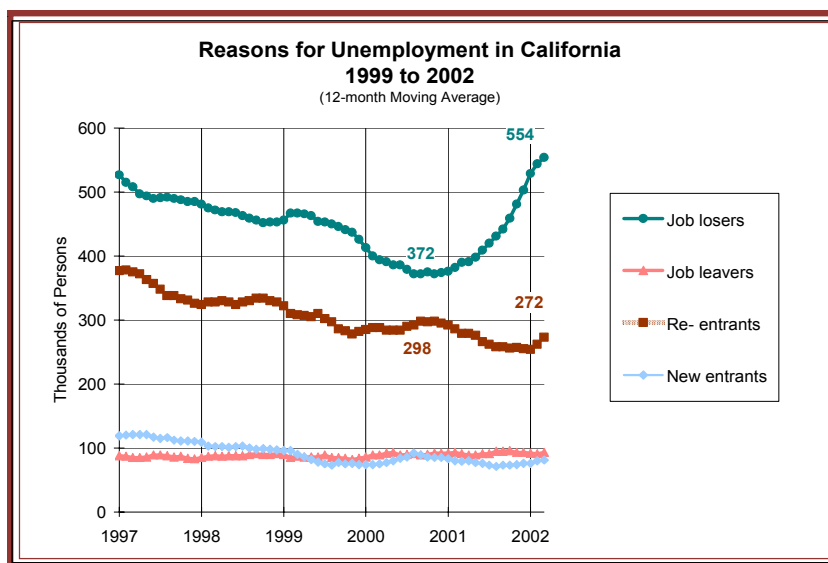


Figure 1-5

A sustained increase in the number of job losers in late 2000 indicated a softening economy. The number of unemployed who are reentrants dropped as the prospects for a successful job search worsened.

Of the four categories, the job loser category is the most sensitive to the business cycle, as shown in Figure 1-5. Reentrants also vary with the business cycle, though to a lesser degree than job losers. Job leavers and new entrants are the least sensitive.

The number of job losers varies inversely with economic growth, falling during expansions and increasing during recessions. In this recession, job loser statistics were a leading economic indicator, bottoming out four months before the turnaround in the nonfarm job count and seven months before the NBER declared the recession's start. At the lowest point in August 2000, there were 372,000 unemployed job losers, comprising 44 percent of total California unemployment. As of March 2002, the number of job losers had increased for 16 consecutive months to 554,000 and their share of unemployment was 55 percent.

Reentering the labor force is associated with behaviors that are more influenced by social and demographic trends than by economic cycles – such as going to school, having children, or caring for family members. Business conditions do, however, affect when individuals leave or reenter the labor market because those conditions determine the likelihood of finding work. In a recession, the prospects of an unsuccessful search tends to discourage job seekers. The number of reentrants is most sensitive to turning points, dropping early in a recession and jumping abruptly early in economic recovery. From its November 2000 peak of 298,000 through March 2002, the number of unemployed reentrants dropped by 26,000, even though unemployment overall rose by 151,000 over the same period. Conversely, when the economy recovers, the prospects of an easy and successful job search will “encourage” job seekers to resume their job hunt.

MASS LAYOFFS

There were just under 2,000 extended mass layoff events experienced by California employers in 2001, as measured by new filings for Unemployment Insurance benefits. Each of these actions involved at least 50 persons at a single establishment or as few as 20 persons in the case of a plant closure.

In total, the 1,949 actions in 2001 involved 378,000 workers. This was the highest number of California extended mass layoff events and workers separated in any year since the data were first compiled in 1996. This was up from the 1,322 actions recorded in 2000 that affected 316,000 workers.

The numbers of mass layoffs on a quarterly basis are shown in Figure 1-6. Changes from one quarter to the next, such as the decline from the fourth quarter of 2000 to the first quarter of 2001, reflect a seasonal pattern. Notwithstanding seasonal influences, the increase in layoffs between the first and second quarters of 2001 was a clear warning bell since layoffs dropped substantially between these two quarters in the previous five years.

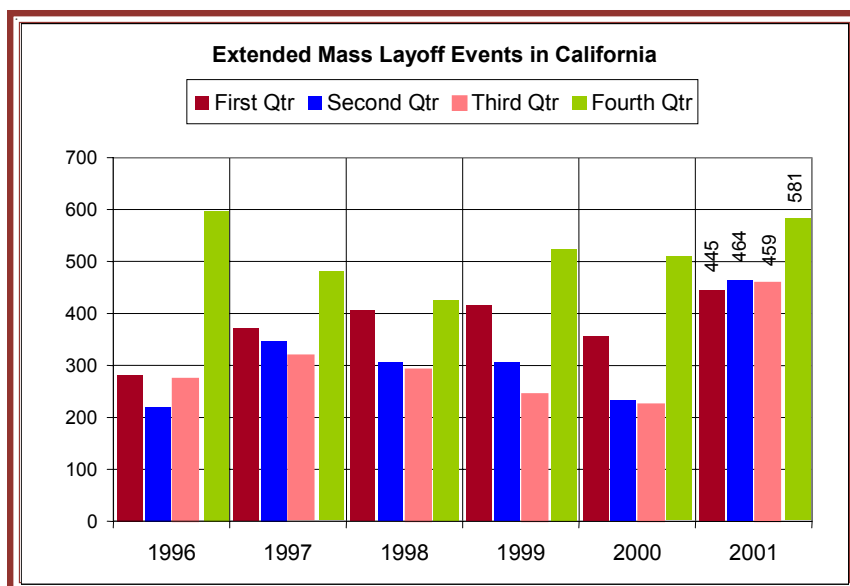


Figure 1-6

Indicative of the turning point at the start of 2001, extended mass layoff actions reached a six-year record high in 2001. Layoffs in 2000, the last year of expansion, were at a four-year low.

We also note that the number of layoff events rose on a year-over basis (that is, comparing one quarter of the current year to the same quarter the previous year) in every quarter of 2001. This was a reversal of the 2000 statistics, when there were year-over drops in every quarter. In fact, layoffs were at all-time quarterly highs during the first three quarters of 2001.

In comparison, there were 8,191 events reported nationwide in 2001, affecting 1.7 million workers. This was a 45 percent increase over the number of events reported in 2000, and a 43 percent increase in the number of workers affected by the events of the previous year.

ECONOMIC OUTLOOK AND FORECASTS

From its start, economists had expected this recession would be short-lived. Year-end outlooks saw declines in real GDP and nonfarm payrolls lasting through the first or second quarter of 2002, at the longest. Most economists agree that the recession is over and a modest recovery is underway. The outlook remains guarded, however. Economic growth could be so tepid in recovery, warn some economists, that the economy could easily slump back into recession.

To quantify the short-run outlook for the California economy, we reviewed the forecasts of the University of California at Los Angeles (UCLA) Anderson Forecast, the California Department of Finance (DOF), and the California Legislative Analyst's Office (LAO). These organizations use data-based modeling, forecast all the major labor force and industry employment statistics, and forecast both the nation and State.

The range of forecasts developed by these organizations is used as a proxy for the "consensus" California outlook. However, because the forecasts were prepared at different times, some of the differences in the forecasts are the result of more recent and complete information. Notably, the UCLA forecast discussed here was released in June 2002, two months later than the DOF forecast released in April 2002, and four months later than the LAO forecast dated February 2002.

The primary factor determining the outlook for California is the rate of recovery in the U.S. economy. Trends in business investment in equipment and software and their inventories will be particularly important. Other issues in the forecast are energy supplies and prices, personal income gains, international trade, and the level of construction activity. Each of these factors is discussed extensively in the next chapter.

Forecasters correctly predicted that California would see payrolls fall in the second half of 2001, but that California would nevertheless record gains on an annual average basis in 2001. Actual 2001 annual average job growth was 1.4 percent. This was as much as a half a percentage point below predictions.

The rate of annual average job growth will be lower in 2002 than it was in 2001, with the DOF and LAO predicting negative growth. Specific forecasts for growth range from -0.5 to 0.2 percent in 2002, from 2.0 to 2.5 percent in 2003, and from 2.3 to 2.9 percent in 2004, as shown in Figure 1-7.

Behind the annual rates, all forecasters expect that employment will rise on a quarterly basis at an increasing rate. The UCLA expects nonfarm payroll job growth will rebound in the second half of 2002. After decreasing by 2,000 jobs in the second quarter, UCLA expects payrolls to increase by 55,000 jobs in the third quarter, and to increase in the range of 75,000 to 108,000 jobs from the fourth quarter of 2002 through the end of 2003. The DOF, on the other hand, foresees an earlier rebound and overall stronger recovery through the end of 2004. The DOF predicts an increase of 34,000 jobs in the second quarter of 2002, followed by gains of 30,000 jobs in the third quarter, 88,000 jobs in the fourth quarter, and quarterly gains of between 71,000 and 129,000 jobs in 2003.

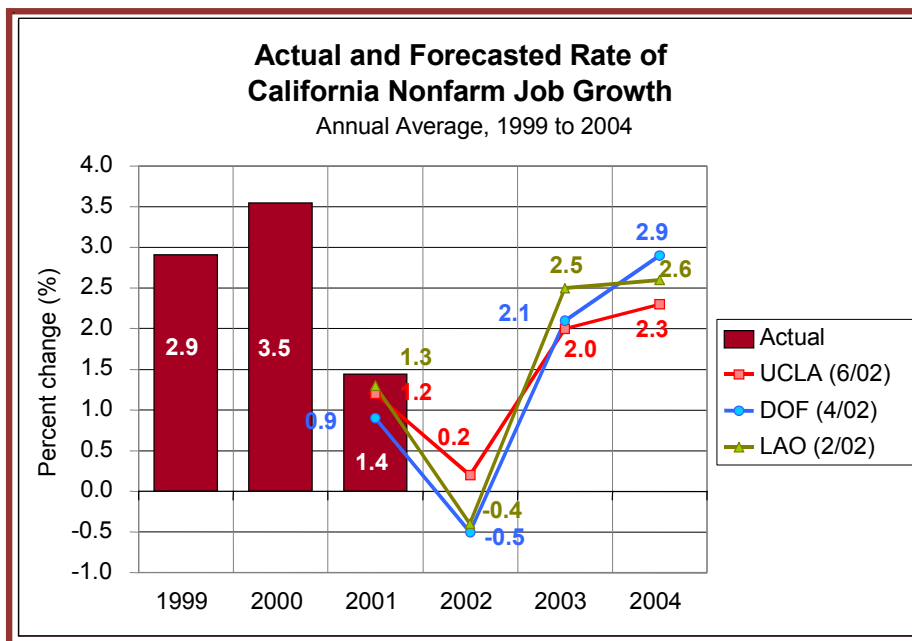


Figure 1-7

Predictions that California job growth in 2001 would drop below 2 percent proved correct. Forecasters expect job growth to slow further in 2002 despite quarter-by-quarter strengthening in labor demand.

To forecast the unemployment rate, economists considered that a slowdown would discourage some job seekers, leading to slower labor force growth. On an annual average basis, California forecasters correctly predicted that the State's labor force would increase by 1.6 percent in 2001, down from a blistering pace of 3.0 percent in 2000.

Employment must increase more than labor force in order to lower unemployment.

Given the outlook for a modest – or even “jobless” – recovery, the unemployment rate and number of unemployed are expected to remain at elevated levels for several more years. The California unemployment rate will range between 6.4 and 6.5 percent in 2002, between 5.7 and 6.3 percent in 2003, and between 5.3 and 6.1 percent in 2004. Even the most optimistic forecasters do not foresee a return to the low unemployment rates prior to the 2001 economic downturn (See Figure 1-8).

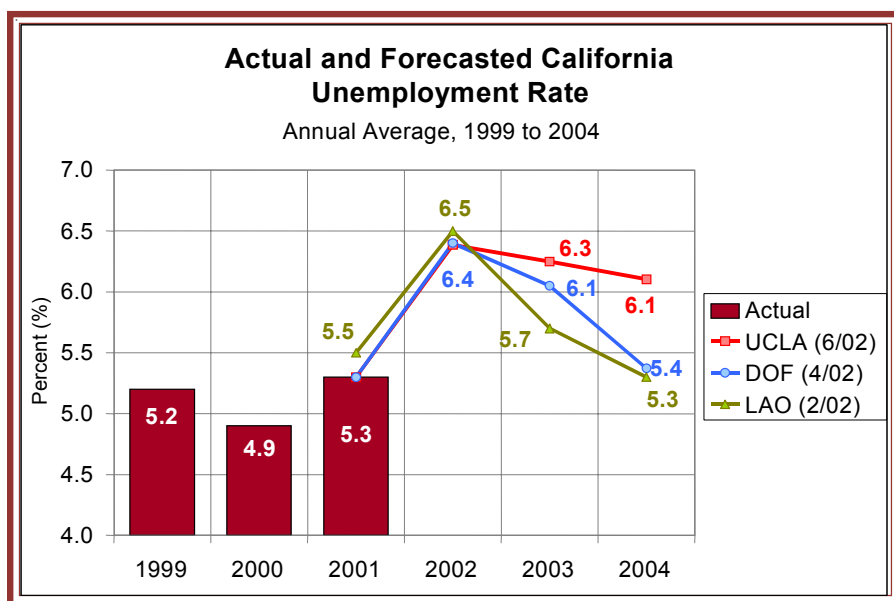


Figure 1-8

On an annual average basis, the California unemployment rate was 5.3 percent in 2001. Forecasters expect the rate will top 6 percent in 2002 and likely remain above that important threshold rate in 2003.

On a quarterly basis, forecasters expect the unemployment rate to reach a recession high of 6.5 percent in the second or third quarters of 2002. This would be 1.8 percentage points above the expansion-low quarterly average of 4.7 percent. The State rate would drop below 6 percent on a sustained basis starting in the closing quarter of 2003, according to DOF. The UCLA predicts the rate will stay at or above 6 percent through the end of 2004.

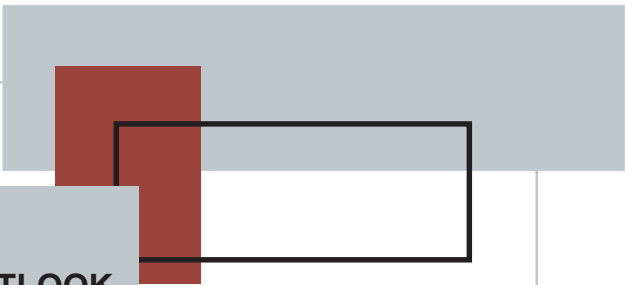
Forecasters predict only a modest fall in the number of unemployed persons through the end of 2004. The UCLA predicts the unemployment level will peak at 1,150,000 persons in the second quarter of 2003 – just two thousand persons more than in the second quarter of 2002 – and will hover near the 1.1 million mark through the end of 2004. The DOF predicts the number of unemployed persons will peak in the third quarter of 2002 at 1,152,000 persons, and gradually decrease thereafter, not falling below one million until in the first quarter of 2004 and hovering near that level through the remainder of that year. Even under this more optimistic scenario, the number of unemployed will remain substantially higher than the pre-recession low of 818,000 in the first quarter of 2001.

SUMMARY

California had very healthy rates of job growth in the late 1990s and 2000. In addition, California outperformed the U.S., adding jobs at a faster rate than the nation in every year since 1996. However, job growth slowed significantly – to 1.4 percent – in 2001 with a crash in high technology investments. This was the slowest annual rate of growth in California since the early 1990s, when California was gripped by a deep and prolonged recession. The unemployment rate jumped with the economic slowdown in 2001, rising 0.4 percentage point to 5.3 percent. The national unemployment rate jumped even more – by 0.8 percentage point.

The national recession was determined to have started in March 2001. California reached its peak employment level in January 2001. The current recession was in its 14th month as of March 2002, during which time employment levels declined by just 0.4 percent. The 2001 recession has proven to be California's mildest since World War II.

Most forecasters expect annual average job growth in 2002 to be lower than in 2001. The first half of 2002 is expected to be the slowest growing. Forecasters further expect the unemployment rate to remain at persistently high levels as a result of a recovery with only modest job growth. The number of unemployed persons in California is expected to stay above or near the one million mark through the end of 2004 (a substantially higher level than the pre-recession low).



Chapter 2

FACTORS AFFECTING THE OUTLOOK

The consensus outlook for the California economy calls for weaker job growth and higher unemployment rates in 2002, followed by more robust growth in 2003. This chapter discusses the macroeconomic trends and business issues affecting the forecast. The national economy, high technology markets and international trade are the most significant negative influences. Moreover, the effects of the energy situation and mixed trends in consumer expenditures and construction spending add uncertainty to the outlook.

THE NATIONAL ECONOMY

The most important market for California goods and services is the U.S. economy. When the national economy expands, demand for California's goods and services increases. When the national economy slows, demand for California's goods and services falls, and economic activity slows.

Whereas the strong national economy helped boost employment growth in California in 1999 and 2000, a weak national economy dampened employment growth in 2001. The national economy began to soften significantly in the second half of 2000 and fell into recession in March 2001, ending a decade of expansion. Real gross domestic product (GDP) rose more than 4 percent annually from 1997 to 2000, but rose only 1.2 percent in 2001. Quarterly GDP data show the slowing in the economy. After growing by less than 2 percent in the third quarter of 2000 to the first quarter of 2001, GDP stagnated in the second quarter of 2001, increasing by an anemic 0.3 percent, and fell 1.3 percent in the third quarter. However, GDP grew by 1.7 percent in the fourth quarter of 2001, suggesting that the national economy had turned the corner towards recovery.¹

A sharp decline in business investment was the main reason for the weakening of the economy. Gross private domestic investment fell by 8 percent in 2001, a sharp reversal from the annual increases of 7 percent or greater from 1996 through 2000. The high technology sector was the first sector to be affected by this falling investment. After growing 11 or more percent annually from 1993 through 2000, business investment in equipment and software fell

¹ Insufficient information was available when this chapter was written to determine whether or not the fourth quarter of 2001 marked a turning point in the national economy. If so, the 2001 recession will turn out to be one of the shortest and mildest in U.S. history.

by 4.4 percent in 2001. Quarterly data show that high technology investments slowed markedly in the third quarter of 2000, and declined 1.1 percent in the fourth quarter of 2000. In 2001, investments declined by an average of 8.4 percent per quarter. Private fixed investment in nonresidential structures turned negative beginning in the second quarter of 2001, and remained so through the remainder of 2001. Business investment is not expected to grow until mid-to-late 2002, after businesses complete drawing down excess inventories and begin to expand with the growing economy.

The government has used monetary and fiscal policies to stimulate the economy. With inflation low, the Federal Reserve Board cut interest rates 11 times in 2001, lowering the federal funds target rate from 6.5 percent at the beginning of January to a 40-year low of 1.75 percent on December 11th. Fiscal policies included tax rebates totaling over \$38 billion that were sent to about 92 million U.S. households between July and September and \$40 billion in emergency spending authorized in the wake of the September 11th terrorist attacks. In addition, Congress passed a fiscal stimulus package in March 2002 that extended unemployment benefits and contained some tax breaks for businesses. These monetary and fiscal stimuli to the economy are expected to enhance economic growth in 2002 and beyond.

By March 2002, the consensus among economists was that a modest economic recovery was underway that would gradually gather in pace. However, economists were divided as to how robust the recovery would be. In optimistic outlooks, the stimulative effects of monetary and fiscal policies and pent up demand by businesses and consumers would produce a strong recovery. In pessimistic forecasts, cautious spending by indebted businesses and consumers and a weak global economy would produce only a modest recovery with sluggish growth. Whereas a robust recovery would provide a boost to future employment growth in California, a weak recovery would dampen it.

INTERNATIONAL TRADE

International trade is an important segment of the California economy that supports and creates relatively high paying jobs.² California is consistently the nation's top exporter. In 2000, the total value of California's exports grew by nearly \$22 billion to \$120 billion, an increase of

² The U.S. Department of Commerce's International Trade Administration, in an August 2001 report entitled "California Benefits from Exports," estimated that in 1997 export-supported jobs accounted for 9.8 percent of California's total private sector employment. The wages of workers in export-related jobs ranged from 13 to 18 percent higher than the national average.

22 percent. At least part of this increase was attributable to a recovery in trade with Asia spurred by the resolution of its financial crisis that depressed 1999 trade levels.³ Strong export performance was a key contributor to California's robust employment growth in 2000, and helped to shelter the California economy from feeling the immediate effects of the developing national economic slowdown.

However, as the U.S. economic slowdown extended to the global economy, California's trade situation worsened considerably in 2001. After a strong 13 percent year-over gain in the first quarter of 2001, the year-over total value of California's exports decreased by 7 percent in the second quarter of 2001, by 19 percent in the third quarter and by 26 percent in the fourth quarter. For the year 2001, the value of California's exports was \$13 billion lower than in 2000, a decrease of 11 percent. However, a greater decrease was mitigated by the bump in trade in 2000 that accompanied the end of the Asian financial crisis.

International trade is particularly important to the high technology sector, with supply chains that are characterized by a high degree of global integration. An export boom helped fuel the recent growth of California's high technology sector. Exports of computer and electronic products totaled \$61 billion in 2000, accounting for slightly more than half of the total value of all California's exports. Industrial machinery, which includes semiconductors and computer chips, accounted for an additional \$14 billion, or 12 percent, of California's total exports. In 2000, California's exports of computer and electronic products increased by \$12 billion (24 percent) in value. California's industrial machinery exports increased by \$5 billion (58 percent) in value.

However, California's high technology exports fell sharply in 2001. Exports of computer and electronic products fell \$11 billion in value, down 18 percent from their 2000 level. Industrial machinery exports were down \$3 billion or 22 percent. The reduced sales from trade aggravated the slump in California's high technology sector.

The decline in California's export sector in 2001 was attributable to a weaker global demand for California products. In 2001, California's exports to 9 of its 10 largest export markets, and to 21 of its top 25 markets, were down from 2000 levels. Only exports to mainland China expanded significantly in 2001, increasing by 32 percent. Second quarter 2001 GDP growth was down sharply from 2000 levels in each of California's top 20 export markets, with the exception of China. Third quarter 2001 GDP data show a deepening global slowdown. Among California's top ten export destination countries, only Great Britain and South Korea

³The Asian financial crisis and its effects on trade are discussed in the State of the State's Labor Markets - June 1999 report. The report is available from the LMID Web site at: <http://www.calmis.ca.gov/specialreports/StateoftheStatesLM.pdf>.

showed modest GDP growth of about 2 percent, while Canada and Hong Kong had anemic growth of 0.5 percent or less. Mexico and Japan – California’s largest export markets – were in recession, as were Taiwan, Germany and Singapore, and quarterly GDP growth in the Netherlands had turned negative.

By early 2002, the consensus among economists was that the worst of the global recession was over, and that resumed growth in the U.S. economy would lead the global economy into recovery in 2002. Uneven regional growth was expected, with recovery in Europe lagging behind that of the United States and Japan’s severe recession extending into the foreseeable future. As with the U.S. economic outlook, a strong global recovery would provide a boost to California’s economy and employment, while a weak recovery would have a dampening effect.

HIGH TECHNOLOGY MARKETS

The high technology expansion that fueled much of California’s rapid income and employment growth since 1996 began to falter in the latter half of 2000, and came to a screeching halt in 2001. Businesses found they had over-invested in information technology (IT) during the heady days of the “Internet Rush.” The slowdown in trade aggravated the situation.

The performance of the technology-laden NASDAQ composite stock market index clearly depicts the end of the high technology boom. The NASDAQ increased in value by more than two-and-a-half times between October 1998 and its peak in March 2000, and nearly doubled in value between mid-August 1999 and early March 2000. After reaching its March peak, however, the NASDAQ index experienced a sharp and sustained decline. The NASDAQ index was down by more than one-third from its peak by late May 2000, and was down by over half (51 percent) by the end of December 2000. High technology stocks weakened further in 2001, and by early September the NASDAQ composite index had fallen back to October 1998 levels before rallying slightly by the end of the year.

As a result of the combination of decreased information technology equipment purchases by businesses and plunging stock values, capital investment in high technology generally, and particularly in Internet-related ventures, declined sharply. This caused a shakeout among dot-com companies. Since the information technology industry is concentrated in the Bay Area, it was particularly hard hit by the high technology slowdown and dot-com shakeout.

The end of the “Internet Rush” has had a significant effect on employment in California’s high technology industries. In manufacturing, the electronics equipment and industrial

machinery industries grew by 15,000 jobs in 2000. However, these industries lost 10,000 jobs in 2001.

Employment in business services, which includes the highly IT-oriented personnel services and computer programming industries and was a key source of job growth during the high technology expansion, declined sharply in 2001. After adding 136,000 jobs in 2000 alone, business services lost 43,000 jobs in 2001. Within business services, computer programming and related services added 94,000 jobs in 2000, but grew by only 200 jobs in 2001.⁴

The high technology slump has sidelined the key engine of California's recent employment growth, particularly in the San Francisco Bay Area. However, this slump is a cyclical contraction related to the business cycle. Since California's high technology companies increasingly specialize in design, research and development rather than the manufacture of goods and services, the negative employment effects of the slowdown have been somewhat muted. By the same token, California should be comparatively well positioned when the high technology sector rebounds.

Most economists predict that recovery in the high technology sector will lag behind that of the overall economy, with a gradual turnaround not expected until the end of 2002. The exact timing of the recovery will depend on a number of factors: a recovery in business investment, correction of the excess inventory problem, and a recovery in the global economy to rekindle export growth. Economists predict only modest growth when the high technology sector does rebound, with investments based on proven profit potential instead of the unfounded expectations of new technologies and markets. If, and when, this industry area rebounds, the overall economy of California and the San Francisco Bay Area will be aided by the increase in jobs and wages paid.

THE ENERGY CRISIS

California's energy woes dominated the headlines in the second half of 2000 and the first half of 2001. Wholesale electricity and natural gas prices skyrocketed, reaching peaks many times their historic levels. Power emergencies, which are called when electric power reserves shrink to critically low levels, were declared repeatedly in winter and spring. Rolling blackouts were implemented on six occasions in January, March and May to ease pressures on the

⁴Computer programming and related services recorded a job loss in May 2001, its first since the series was established in 1996.

State's electricity grid. Experts issued dire warnings of frequent rolling blackouts in the peak summer months that would seriously disrupt California's economy and contribute to rising unemployment.⁵

However, the predicted blackouts never materialized and California escaped summer blackouts as a result of energy conservation efforts, expanded generating capacity, and stabilized prices and supplies in energy wholesale markets. Mass layoff statistics and unemployment insurance claims related to the energy crisis show that direct job layoffs from the crisis totaled no more than a few thousand and that nearly half of these layoffs were temporary and often of very short duration.

There might have been indirect employment effects of the energy crisis, but they are impossible to quantify. The uncertain business and economic climate surrounding the crisis may have led some firms to table expansion and investment plans, defer hiring decisions, or reconsider relocating their operations to the State. Moreover, the rate hikes for electricity that took effect in June 2001 – higher for commercial and industrial users than for consumers – could have negatively affected business location and expansion decisions because they increased the cost of doing business in California. However, this factor would have been muted to some extent since California is an energy-efficient state.

Although predictions of summer blackouts and economic disruption did not come true in 2001, and electricity supplies and markets appeared to have stabilized by year's end, energy issues will likely continue to influence California's economic outlook and politics in the years to come.

CONSUMER SPENDING

As a result of the high technology boom and the rapid appreciation of technology-related stock values, personal income in California grew at a faster rate than that of the nation between 1997 and 2000. In 2000, personal income grew by 9.8 percent, a pace that ranked third among all states. California's rapid income growth, which far outpaced employment growth during the period, was fueled by stock options, bonuses and capital gains generated from the extraordinary increase in stock market values. In turn, stock-related income was released into the spending stream for retail and services. With the bursting of the high technology stock bubble in 2000, the wealth effects from stock gains were largely dissipated.

⁵ For example, a May 3, 2001 report by AUS Consultants entitled "Impact of a Continuing Electricity Crisis on the California Economy" predicted up to 110 hours of rolling blackouts in summer and potential losses of up to 135,000 jobs.

Rising real estate values have helped cushion personal income somewhat from stock market losses. The median home price of existing single homes in California was \$277,000 in December 2001 – 12 percent higher than in December 2000, and 25 percent higher than in December 1999. In March 2002, the median price of an existing California home topped \$300,000. Many consumers have bolstered their disposable incomes by refinancing their mortgages to take advantage of low interest rates.

Personal income growth in California slowed to 2 percent in 2001 – still growing, but at a much slower rate. On a quarterly basis, personal income growth slowed from 5.8 percent in the first quarter of 2001 to 3.6 percent in the second quarter, and fell by 0.7 and 0.5 percent in the third and fourth quarters, respectively. After a weak beginning, personal incomes are expected to grow in 2002 and show a small annual gain, and rebound more strongly in 2003 and 2004 as the economic recovery gathers pace. In its February 2002 forecast, the Legislative Analyst's Office (LAO) projected personal income growth of 2.8 percent in 2002. However, the Department of Finance (DOF) and the Anderson School of the University of California, Los Angeles (UCLA) were more pessimistic in later forecasts. The DOF projected personal income growth of just 1.5 percent in 2002 in its April 2002 forecast, while UCLA projected growth of just 1.2 percent in its June 2002 forecast. The three forecasts expect personal income to grow by 4.9 to 7.6 percent in 2003 and by 5.9 to 7.8 percent in 2004.

Consumer spending, which accounts for two-thirds of GDP, remained strong in 2001 despite the economic recession. Personal consumption grew nationally by 3 percent in 2001, only slightly off the 5 percent pace of growth from 1998 to 2000. However, in California, moderating income growth in 2001 dampened consumer spending as measured by taxable sales. California's year-over annual taxable sales increased by 12 percent in 2000, which was the largest increase since 1984. However, taxable sales plunged in 2001, declining 0.7 percent. Taxable sales will likely improve only slightly in 2002. The DOF predicts no growth, while UCLA predicts meager growth of 0.4 percent. In contrast, LAO is more optimistic, and expects taxable sales will grow 2.6 percent in 2002. The three forecasters expect taxable sales to rebound as the recovery gathers strength, projecting growth of 5.2 to 7.7 percent in 2003, and 5.9 to 7.3 percent in 2004.

Projected income growth for 2002 does not indicate a level of consumer spending that can rekindle the rapid employment growth of recent years. Many economists worry that since consumers continued to spend during the recession, there will be no pent up consumer demand for goods and services to boost the national economy during its recovery. Moreover, consumer spending is sensitive to events and economic trends. Consumers could cut back on spending if their confidence is shaken by an external shock or if unemployment levels continue to rise because of a sluggish recovery. Consumer debt, near historically high levels, also poses a potential threat to continued spending.

HOUSING

Since 1993, California's residential housing market has expanded at a rate rivaling the housing boom of the 1980s. The number of residential building permits issued in California grew from 84,000 in 1993 to 149,000 in 2000, an increase of 77 percent. This boom in construction fueled rapid employment growth in the construction industry (Chapter 4). The residential housing market held its own in 2001, despite the deepening economic slowdown. Though monthly data reveal a market that began and ended strong but weakened in the middle of the year, residential building permits were issued at the same pace as in 2000.

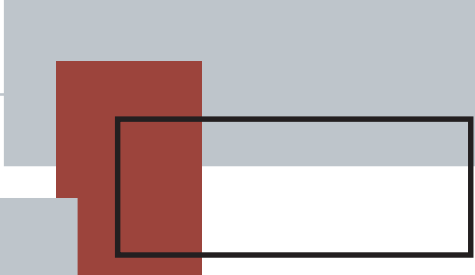
Housing is projected to remain stable, overall, into the foreseeable future, despite high-end market weakening due to the decline in stock options and a slump in certain local markets, such as the Bay Area. Structural factors underlie these expectations. A number of economists have observed that, even with the strong housing market since 1993, new housing starts failed to keep pace with job growth in California. As a result, a long-term housing deficit exists in California. Moreover, low mortgage rates have propped up the housing market, even as the economy slides.

In contrast to residential construction, commercial construction slumped significantly in 2001 due to the economic slowdown and decline in business investment. The value of new nonresidential building permits in December 2001 was down 27 percent from December 2000. Vacancy rates have risen dramatically in the Bay Area, which has been particularly hard hit by the high technology slowdown. From the fourth quarter of 2000 to the fourth quarter of 2001, Oakland-East Bay's vacancy rate rose from 3 to 11 percent, San Jose's vacancy rate rose from 3 to 15 percent and San Francisco's vacancy rate rose from 4 to 16 percent. Commercial

vacancy rates in San Francisco and San Jose were as low as 1 percent as recently as the first quarter of 2000.

Vacancy rates have also risen in Southern California, but at a more modest rate. From the fourth quarter of 2000 to the fourth quarter of 2001, the Los Angeles vacancy rate rose from 11 to 12 percent, San Diego's rate rose from 5 to 10 percent, and Orange County's rate rose from 11 to 15 percent.

Because the housing market remained strong during the recession, it is unlikely that it will provide its traditional boost to the recovering economy. A rebound in commercial construction is not expected until well after the economic recovery is underway and business investment and spending gather pace.



Chapter 3

LABOR MARKET KEY TOPICS

This chapter discusses labor market topics that are in the public eye and presents new labor market information that bears directly on current policy debates or public issues. It is here that we discuss the employment effects of the September 11, 2001, terrorist attacks, followed by early results from the 2000 Census and new information on the labor market status of California's Asian population.

EFFECTS OF SEPTEMBER 11, 2001

Employment data can help gauge the effects of the September 11th terrorist attacks on the California economy. However, a couple of cautionary notes are in order. First, the terrorist attacks were a blow to an economy that had already slipped into recession. As such, it is inherently difficult to isolate any employment effects of the attacks from those of the already weakening economy. Second, job counts are aggregated measures of employment. The net change in the number of jobs in the overall economy, region or a specific industry is a summary statistic that reflects the hiring and firing decisions of a host of establishments. Although extremely useful for identifying and analyzing employment trends, job counts, in and of themselves, provide insufficient information to attribute changes to a specific cause or event, such as the terrorist attacks. Because employment statistics alone are an imperfect measure, any analysis of the effects of September 11th must incorporate other economic indicators, as well as anecdotal evidence.

Every month, employment data are collected for the week that includes the 12th of each month. In September 2001, the 12th fell on a Wednesday. Although occurring prior to the 12th, the September 11th attacks occurred during the middle of the reference week. Under employment survey definitions, anybody who worked for pay during the reference week is counted as employed, and Monday, September 10th was a normal workday in all respects. Because September data do not reflect the effects of the attacks, they represent the pre-attack employment situation and October data are the first to reflect possible September 11th effects.

California lost 12,000 jobs in October 2001 and 44,000 jobs in November. Despite predictions of significant job losses in the wake of the attacks, October's losses were less than the 21,000 jobs the State lost in September. Job losses were greater nationally in the months

following the attacks, suggesting that the initial effects of the attacks fell more heavily on other states than on California. In October and November, the U.S. lost a total of 732,000 jobs, a decrease of 0.6 percent. In contrast, California lost 56,000 (0.4 percent) jobs in October and November. Expressed differently, although California accounts for 11 percent of all U.S. nonfarm payroll jobs, it accounted for 8 percent of U.S. job losses in the two months immediately following the terrorist attacks. In both California and the U.S., job losses in October and November were concentrated in the manufacturing sector, continuing a trend that began several months prior to September 11th.

California's nonfarm payrolls increased by 12,000 in December 2001 and by an additional 16,000 in January 2002. A loss of 7,000 jobs in February 2002 was offset by a gain of 7,000 jobs in March. The pace of national job losses began to slow in January 2002, when just 19,000 jobs were lost. In comparison, U.S. losses averaged over 300,000 jobs per month from October through December 2001. U.S. monthly nonfarm job losses rose to 165,000 jobs in February 2002, before falling by just 5,000 jobs in March. The March 2002 loss was the nation's smallest monthly loss since the job gain in March 2001, which was the last of five consecutive months of job gains. These data suggest that whatever effects there were largely worked their way through the economic system in the two or three months immediately following the attacks.

Specific industries, such as airlines and the segments of the travel and tourism industry most reliant on air travel, were directly affected by the attacks. The most immediate effect of the attacks was the grounding of all commercial aircraft for several days and the public's reluctance to fly in the first weeks after the attacks. Several major airlines, already struggling with poor revenues as a result of a fall off in business travel in the weak economy, responded to the flight groundings and changes in security by sharply reducing services and announcing layoffs in the weeks immediately following the attacks. Commercial aircraft manufacturers, such as Boeing, announced additional layoffs. By the end of September, airlines and companies in related industries announced about 100,000 U.S. layoffs.¹ In turn, hotels, restaurants and resorts that cater to out-of-state and international visitors who arrive by air were affected.

California lost 13,000 air transportation jobs from October through December 2001, a decrease of 9 percent, and a sharp drop from the net gain of 100 jobs in August and September.

¹ This number does not include the ripple, or multiplier, effects of capacity reduction on employment in supplier industries.

However, air transportation job losses moderated from January through March 2002, with losses totaling a little under 4,000 jobs. The magnitude of California's air transportation job losses more or less paralleled the nation's. Nationally, the air transportation industry lost 109,000 jobs from October through December, a decrease of about 9 percent. Air transportation gained 13,000 jobs nationally from January through March 2002, with the lion's share of this increase occurring in January. Although the air transportation industry was clearly hit hard following the attacks, the most recent data indicate the employment situation in the air transportation industry has stabilized.

California's hotel industry experienced job losses in six of the seven months from June 2001 through December 2001. However, the pace of job losses accelerated in the three months following the attacks. Job losses totaled nearly 8,000 from October through December, compared to a loss of only 3,000 over the previous four months. California accounted for 16 percent of the 47,000 hotel industry jobs lost nationally from October through December. These losses were disproportionately greater than California's 11 percent share of total national hotel industry employment during this period. The hotel industry in both California and the nation registered small job gains from January through March 2002.

Anecdotal evidence suggests that the hotel industry was particularly hard hit in tourist markets most dependent on air travel and international visitors, such as San Francisco, Los Angeles, Anaheim, and San Diego. Hotel occupancy rates plunged to record low levels in these markets immediately following the attacks. Moreover, there were numerous reports of hotel workers having their hours sharply reduced in the difficult months following the attacks. Although a painful loss of income for those affected, definitions of employment are such that cutbacks in hours would not affect the hotel industry job count. The hotel industry showed signs of improvement by early 2002, but occupancy rates in January 2002 remained lower than in January 2001. While domestic travel had picked up, international travel, particularly from Asia, still showed little sign of rebounding.

Other segments of the travel industry show mixed results. California's amusement and recreation industry lost 4,000 jobs from October through December 2001. Nationally, amusement and recreation lost 20,000 jobs over the same period. However, California added 4,000 amusement and recreation jobs over the first three months of 2002, while the nation lost 45,000 jobs. California added 4,000 jobs in eating and drinking establishments from October through December 2001, while the nation as a whole lost 44,000 jobs. Over the first three months of 2002, California lost 2,000 jobs in eating and drinking establishments while national

losses totaled 36,000 jobs. These data suggest that compared to the nation as a whole, some segments of California's travel industry were relatively unscathed by the immediate effects of terrorist attacks. However, they could not escape the weak economy, or longer term effects from the attacks such as a subtle shift in business travel patterns and a continued reluctance by at least some out-of-state and international leisure travelers to travel by air due to economic or security concerns.

Beyond direct job losses, how did the attacks affect general economic conditions? The picture painted by economic indicators suggests that, although the terrorist attacks may have worsened an already bad economic situation initially, the economy was able to absorb these effects and rebound quickly. This pattern is typical of an event that jolts the economy, but does not fundamentally alter its structure or productive capacity.

Although economists predicted that the fourth quarter of 2001 would be the most severe of the national recession due to the weak economy and lingering effects of the terrorist attacks, real GDP instead grew by 1.7 percent in the fourth quarter, suggesting that the attacks did not hinder growth during the quarter. Retail sales fell sharply in September but rose even more sharply in October, before returning to trend in November.² Housing starts were up and down from September to December, but were very strong overall at the beginning of 2002. Consumer confidence plunged in September and October, but increased sharply after November, and by March 2002 had returned to August 2001 levels. Personal consumption expenditures grew by 6 percent in the fourth quarter of 2001, well above the 2.5 and 1 percent growth of the second and third quarters, respectively. The index of leading indicators rose for four consecutive months, beginning in October, after falling in August and September. Orders for durable goods plunged in September, but rebounded strongly in October.

Despite dire predictions by economists that the terrorist attacks would increase the length and severity of the recession, the economic ripple effects from the attacks were short-lived and, by the end of 2001, had all but dissipated. Instead, the attacks appear to have set in motion a series of actions that created conditions favorable to economic recovery. These include aggressive interest rate cuts by the Federal Reserve; increased federal spending for security and defense that had a stimulative effect on the economy; and an increase in the pace of business layoffs and restructuring to draw down inventories and improve profit outlooks.

² The large increase in October retail sales was mostly attributable to a surge in auto sales as consumers took advantage of zero-percent financing offers from car manufacturers.

California's air transportation and travel industries were particularly hard hit by a drop in foreign and out-of-state travel. Because these visitors typically stay longer and spend more, this, in turn, threatened the budget situation of cities and counties that are most dependent on revenue from tourism. It remains unclear when international tourism will return to pre-attack levels. However, California overall is less vulnerable than most states to dramatic drop-offs in tourism because of its strong internal tourism market.

Experts agree that the attacks did not fundamentally alter the long-term prospects for the State's key sectors – technology, foreign trade, entertainment and tourism, and professional services. In fact, increased security concerns and defense spending in the wake of the attacks could provide a boost for California's high technology, aerospace, and research and development sectors.

CENSUS 2000

In April 2000, Americans stood up to be counted in Census 2000. In December 2001, it was announced that 33.9 million of those counted, or 12 percent, were Californians. The Census brings a breath of fresh air to labor market analysis by providing the first complete count and detailed picture of the population in a decade. The following are findings from the so-called "demographic and household" files already released. For the most part, the 2000 Census confirmed already suspected demographic trends. It also provided a disaggregated view of the highly aggregated Hispanic and Asian populations.

1990s growth was record-low. California added 4.1 million people in the 1990s, an increase of just 14 percent. This was the State's slowest decade of population growth ever. In comparison, California's population grew by 26 percent in the 1980s, and by an average of 37 percent per decade from 1920 through 1990.

The slower 1990s growth can be directly attributed to the 1990-93 recession. The State's weak job market led to reductions in both international and domestic in-migration. Later on in the decade, more Californians were moving to other states than were moving here from other states. According to the California Department of Finance, California recorded net domestic out-migration from 1991 to 1998.

Current population is understated. Official labor force statistics are tied to population estimates, specifically estimates of the civilian, noninstitutional population, 16 years and older, also known as the working-aged population. In April 2000, official labor statistics were based on a Census Bureau estimate of a California working-age population of 25.6 million.

Early releases from Census 2000 indicate there were 26.1 million Californians 15 years and older in April 2000. The difference, 0.5 million, is more than can be explained by the Census' count of 15 year-olds and persons in the Armed Services and institutions. The difference is more likely due to Census Bureau assumptions about net domestic migration.

We believe, therefore, that when Census 2000 data are incorporated into official labor statistics, the number of employed and unemployed will be revised higher. Revisions to historical labor force data to reflect the Census will be made in 2005.

Every group is a minority. Under U.S. Census Bureau programs, race and ethnicity are different demographic categories. Ethnicity is a yes or no question, "Are you Hispanic or Latino?" Race is another question with multiple-choice answers, "Are you white, black, Asian, etc." For the first time in the history of the Census, Americans were permitted to declare themselves as being of more than one race. In California, 1.6 million people, or five percent of the population, did so. In comparison, only two percent of all Americans did so.

Whites account for a majority of the population – 60 percent in 2000, down from 69 percent in 1990. But 22 percent of California whites and 48 percent of non-whites indicated they were Hispanic. So it is more meaningful to divide California's population into Hispanic-exclusive groupings. Under this scheme, the largest race/ethnicity groups in California are non-Hispanic whites and Hispanics, but no group makes up a majority of the population.

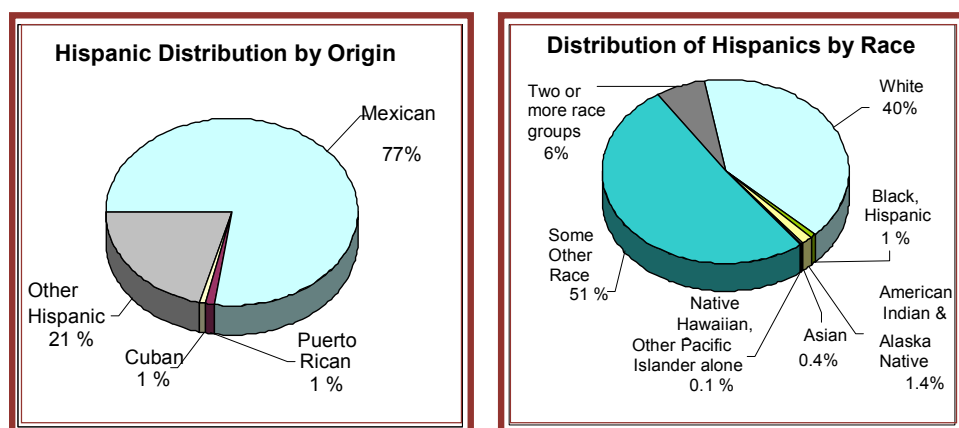
Undercount was reduced. The 1990 Census was widely criticized for having missed many Americans. The Census Bureau itself estimated the 1990 Census undercounted the nation's population by 1.6 percent. California, with its large urban minority and immigrant populations, was undercounted by 2.7 percent.

Census 2000 employed numerous strategies to reduce the undercount: the census form was revised so that it was easier to complete and return; it was supported by a generous advertising budget; and, enumerators and statisticians had access to enhanced technology and automated tools. By all accounts, Census 2000 met its objectives. The Census Bureau reports the nationwide undercount fell to 1.2 percent. The California Department of Finance expects the California Census 2000 undercount will be 1.5 percent compared to an undercount of 2.7 percent in 1990.

Who are California Hispanics? For Census 2000, people were asked if they were of Spanish/Hispanic/Latino origin and if so, to choose whether their origin or descent was Mexican, Puerto Rican, Cuban, or other Spanish/Hispanic/Latino.

Representing just over 32 percent of the population, Hispanics surged to 11 million in California by 2000. More than half (51 percent) of Hispanics indicated they were of some other race, while 49 percent indicated specific racial groups. Forty percent of Hispanics indicated they were white. In contrast, nearly all non-Hispanics indicated they were of a specific race, with just 0.3 percent indicating the “some other race” category. Sixty-nine percent of non-Hispanics indicated they were white. Approximately 6 percent of all Hispanics indicated two or more races compared with just under four percent of non-Hispanics (see Figure 3-1).

California’s Hispanic population increased by 43 percent, from 7.7 million in 1990 to 11 million in 2000. Of this 3.3 million increase, Hispanics of Mexican descent accounted for 71 percent of the growth.



Source: 2000 U.S. Census

Figure 3-1

A minority of Hispanics identified themselves as white. Over three-fourths of California Hispanics are of Mexican origin.

In comparison, Hispanics make up the fastest-growing segment of the U.S. population, both in absolute numbers and share. Hispanics now comprise 13 percent of the total U.S. population, up from 9 percent in 1990. The majority of U.S. Hispanics are Mexican (59 percent), with the balance being Puerto Rican, Cuban, Central American, and South American.

Who are California Asians? Asians had the country’s fastest growth rate in the 1990s and account for 11 percent of California’s total population. As a racial group, they are made up of a number of national origins – 17 in all on Census 2000 – a few of which are shown in Figure 3-2. Almost half of the Asian population in California identified their origin as either Chinese or Filipino. The next highest groups were Vietnamese, at 12 percent, and Asian Indians and Koreans, at 9 percent. Slowing immigration may be the reason for the declining representation of Japanese Americans who now account for 8 percent of the Asians in California.

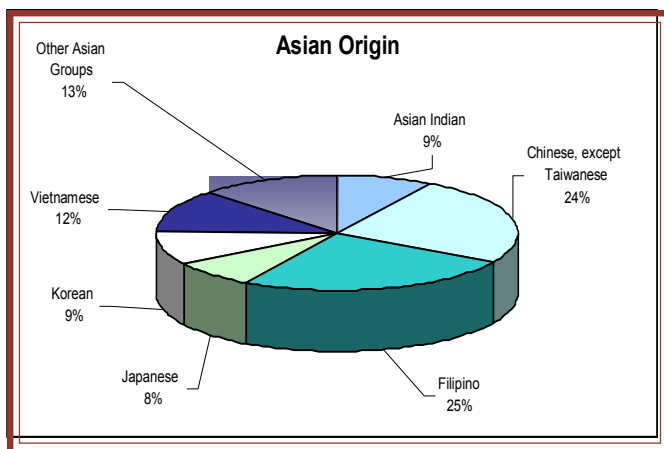


Figure 3-2

About one-quarter of California Asians are of Filipino descent and another quarter indicated their family heritage was from mainland China.

NEW UNEMPLOYMENT RATE DATA FOR ASIANS

Although Asian and Pacific Islanders represent 12 percent of California's working-age population, employment data for Asians are not regularly published. Therefore, a special analysis was conducted which indicated that California Asians had the lowest unemployment rate among race/ethnicity groups in 2000, just under the rate for non-Hispanic whites. The unemployment rate for Asians rose abruptly in 2001, diverging from the trend in unemployment rates among whites (see Figure 3-3). This divergence reflects the geographic concentration of Asians in the San Francisco Bay Area – the region hardest hit by the recession.

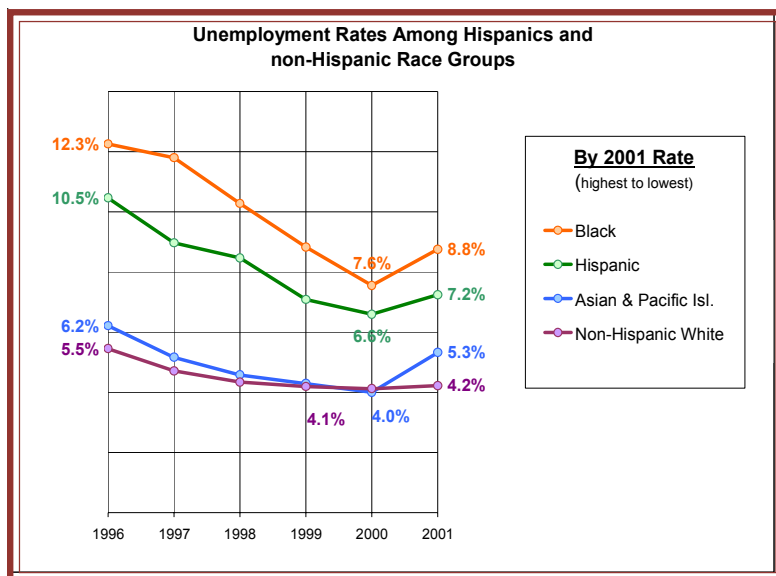


Figure 3-3

California Asians had an unemployment rate of 5.3 percent in 2001. This was more than 1 percentage point higher than the rate for non-Hispanic whites.

FURTHER THOUGHTS ON ETHNIC DIVERSITY

California is the second most ethnically and racially diverse state in the country, trailing only Hawaii. According to recent projections, by 2020 white and Hispanic residents in California will be approximately equal as a percentage of the State's population. One component of these projections is the diverse student body of California's public schools. Looking at today's Kindergarten through 12th grade public school students, for example, points toward even greater diversity for tomorrow's workforce. Hispanic students are the largest group in California's elementary and secondary schools. White, Asian/Pacific Islander, and black students rank second, third, and fourth, respectively, with American Indian students ranking fifth.

In comparison, public school enrollment for United States as a whole presents a much different, though by no means mono-ethnic or mono-racial, picture. White students represent a clear majority for the U.S. Nationally, Hispanic students (ranking third) are very close to reaching numerical parity with black students (ranking second) while Asian/Pacific Islanders and American Indian students rank fourth and fifth in that order.

SUMMARY

The economic effects of the September 11th terrorist attacks are inherently difficult to isolate from those of the coincidentally weak economy. However, the available evidence suggests that although the attacks may have aggravated an already bad economic situation and most directly affected specific industries such as airlines and the segments of the travel industry that are most dependent on air travel, the economy, overall, was able to absorb their effects and rebound in the months immediately following the attacks. As is true of most economic shocks, over the longer term, the attacks are expected to have only minimal effects on the economy.

Meanwhile, the 2000 U.S. Census will profoundly influence labor market analysis over the next decade. The Census shows that although California's population growth in the 1990s slowed to a record low pace, its population and workforce have become the second most racially and ethnically diverse in the United States. California's Hispanic population increased by 43 percent, from 7.7 million in 1990 to 11 million in 2000. By 2020, California's white and Hispanic populations are expected to be almost equal in size. Asians had the country's fastest growth rate in the 1990s and account for 11 percent of California's population, almost half of whom identified their origin as either Chinese or Filipino.

Immigration contributes to California's ethnic diversity. Because immigrants are most likely to be of working age, California arguably has the most culturally diverse workforce in the country. On average, California receives approximately one-fourth of the annual immigration to the U.S. In fact, foreign-born residents in California comprise one-fourth of the State's population while the foreign-born comprise about one-tenth of the U.S. population.

Chapter 4

INDUSTRY EMPLOYMENT

This chapter discusses employment trends by major economic sector and is based primarily on annual average trends through 2001. Because comparisons of annual average employment changes tend to mask the magnitude of the recent economic downturn, monthly data for each December are compared to highlight changes in job trends that occurred as a result of the change in economic conditions in 2001.

SECTOR JOB GROWTH

From 1997 through 2001, nonfarm payroll employment in California rose by nearly 2 million. The share of job growth contributed by each sector is shown below. The services sector contributed the most new jobs, accounting for 41 percent of the total net job growth in nonfarm industries. Trade, construction, and government together added another 46 percent of net job growth.

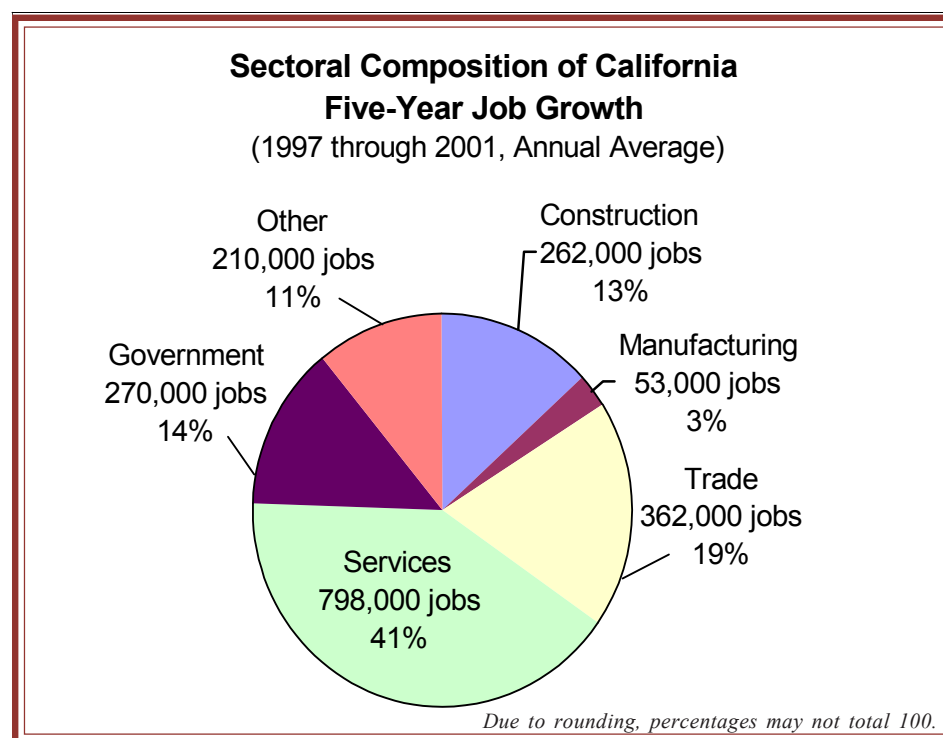


Figure 4-1

Services contributed 41 percent of the nearly 2 million new jobs created statewide, while trade, government, and construction together contributed an additional 46 percent of new jobs.

This pattern – services contributing two-fifths of new jobs, and the four sectors (services, trade, construction, and government) combining for at least three-quarters of new jobs – is likely to continue as long as the Standard Industry Classification (SIC) system is in use. In June 2003, industry employment statistics will be converted to the North American Industry Classification System (NAICS).¹ The change in classification won't change the economy, but it will certainly change our view of industry detail.

The substantial contribution of services to overall job growth over the five-year period is not all that surprising given that it accounts for the largest share – nearly one third – of all nonfarm jobs. Nevertheless, its share of total nonfarm job growth (41 percent) exceeded its share of total jobs. Construction's share of job growth was more than double its share of total employment.

This is reflected in a comparison of job growth rates – the percentage change in employment over the five years by economic sector. Construction and services employment rose 52 and 21 percent, respectively. This growth was well in excess of the overall growth rate of 15 percent. Employment growth in transportation, communications, and public utilities was slightly faster than the economy-wide rate (see Figure 4-2).

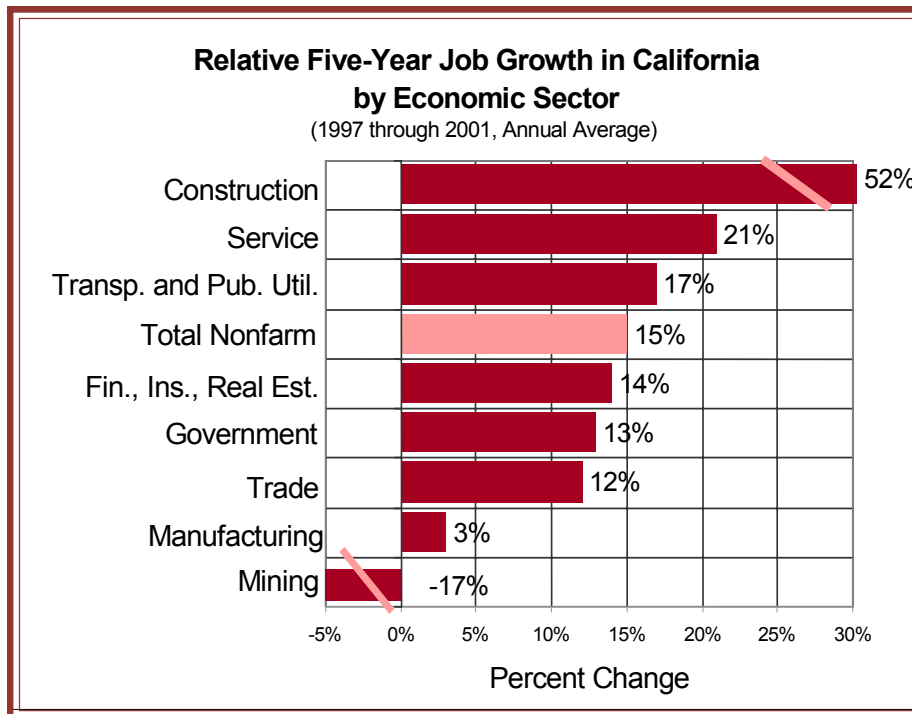


Figure 4-2

Construction had the fastest relative job growth over the last five years, growing at more than three times the pace of the overall California economy. Services had the second fastest growth. Mining was the only sector to lose jobs, and its payrolls have not grown over eight of the last ten years. Five-year job growth in other sectors ranged from 3 percent in manufacturing to 14 percent in finance, insurance, and real estate.

¹ For more information on NAICS, see the U.S. Bureau of Labor Statistics NAICS web page at <http://www.bls.gov/bls/naics.htm>.

Just five major industry groups accounted for 51 percent of the total increase in nonfarm employment from 1997 through 2001. The top job-producing industry groups were business services, local government, special trades construction, eating and drinking establishments, and engineering and management services.

JOB GROWTH IN 2001

Most industry sectors recorded employment growth in 2001, despite the national economic slowdown. However, the annual rate of growth in most industry sectors was substantially lower than the high growth rates of the preceding four years when the economy was expanding. Manufacturing was the only sector to lose jobs in 2001.

However, these 2001 annual average data mute the effects of the economic recession. The following chart shows changes in quarterly average employment for key industry sectors and total nonfarm payrolls from the first quarter of 2000 through the first quarter of 2002. The chart shows a distinct slowing in the quarterly rate of job growth in total nonfarm employment from the third quarter of 2000 through the first quarter of 2001. Total nonfarm employment growth turned negative in the second quarter of 2001, and dropped further overall through the first quarter of 2002.

The fall in nonfarm employment was the result of weakening employment in the services and manufacturing sectors, the sectors most affected by the high technology slowdown (Chapter 2). Quarterly employment growth in services began to slow significantly in the fourth

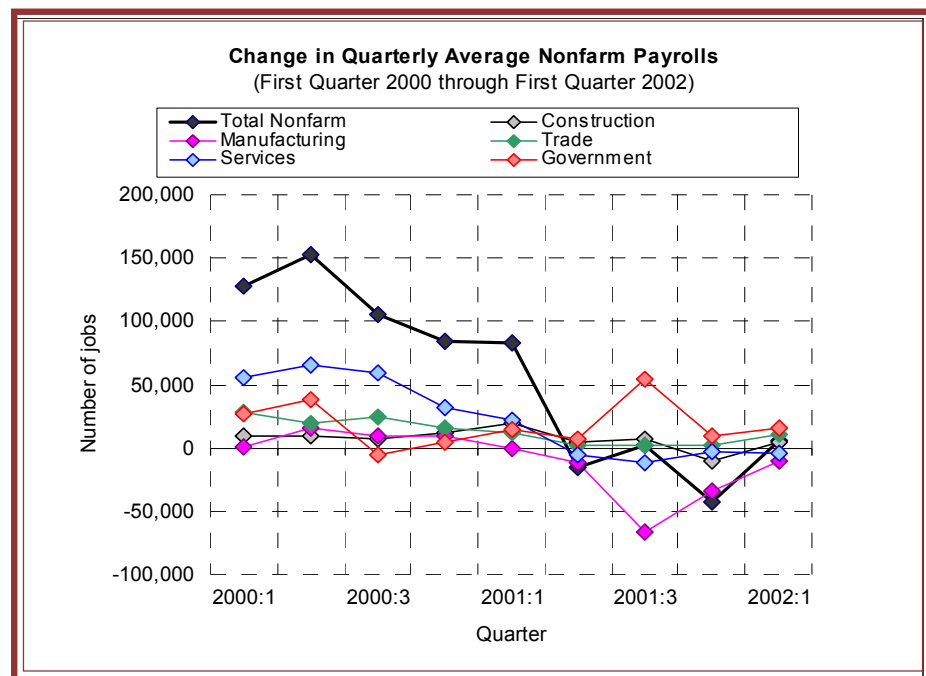


Figure 4-3

After peaking in the third quarter of 2000, California's rate of nonfarm job growth slowed steadily and was negative in the second and fourth quarters of 2001. The slowdown was concentrated in the manufacturing and services sectors.

quarter of 2000. After reaching peak employment in the first quarter of 2001, services jobs decreased in the following four consecutive quarters. The services sector had been the leading jobs generator during California's robust economic growth in the late 1990s and 2000.

Employment in manufacturing peaked in the first quarter of 2001 and, by the first quarter of 2002, had also declined in four consecutive quarters. The largest manufacturing job losses occurred in the third and fourth quarters of 2001, when losses totaled 101,000 jobs.

Employment growth in construction and trade slowed noticeably in 2001 with the weakening economy. In contrast, government employment had increased in six consecutive quarters as of the first quarter of 2002. Although employment showed signs of stabilizing across key sectors in the first quarter of 2002, growth remained flat overall.

The following sections of this chapter discuss employment trends in California's key industrial sectors in greater detail.

CONSTRUCTION

After recording increases over 11 percent in both 1998 and 1999, construction employment growth slowed to 7 percent in 2000 and to 6 percent in 2001. Although construction added 41,000 jobs in 2001, this was its smallest annual increase since 1996 (see Figure 4-4). California's pace of construction job growth has outpaced the nation's each year since 1996. In 2001, California's increase in construction payrolls continued to outpace the nation's, which grew only 2 percent.

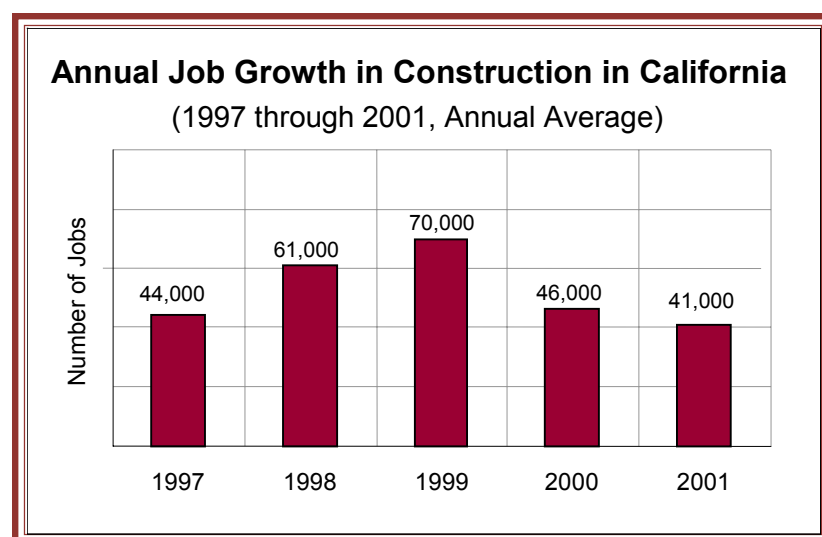


Figure 4-4

Construction added 41,000 jobs in 2001, the smallest annual gain in the last five years.

Of the three construction industries, heavy construction recorded the smallest job gains, an average of 4 percent per year for a total of 11,000 jobs from 1997 through 2001. Special trades recorded the greatest job gains, an average of 13 percent per year for a total of 204,000 jobs.

Annual average data comparisons mute the dampening effect of the recession within the construction industry, and particularly, commercial construction (Chapter 2). Construction payrolls increased by only 12,000 jobs for the year ending in December 2001, compared to an average year-over December increase of 58,000 jobs over the previous four years. Special trades showed a year-over gain of only 9,000 jobs in December 2001, while heavy construction showed a year-over loss.

SERVICES

Services added nearly 800,000 jobs from 1997 through 2001, increasing at an average rate of 4 percent per year. This equaled national performance over the same period. Services grew at a record pace in 2000, swelling payrolls by 226,000, or 5 percent, the largest increase ever. Business services accounted for over 40 percent of the jobs created in services over the five years, although it employed, on average, less than 30 percent of the sector's workers (see Figure 4-5). Engineering and management services, health services, social services and private educational services rounded out the top five job producing industries in the sector.

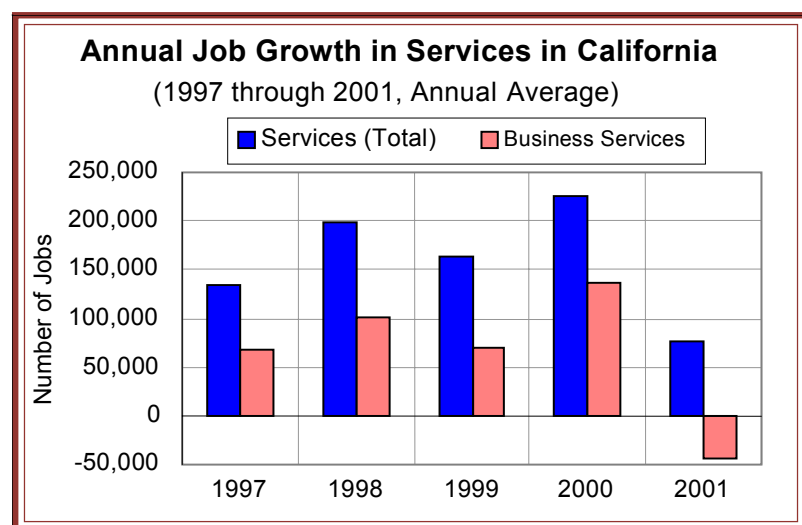


Figure 4-5

Services added fewer jobs in 2001 than in each of the previous four years as business services, the driver of services job growth in recent years, lost jobs.

However, employment growth in services slowed significantly in 2001. California added just 76,000 services jobs in 2001, an increase of only 1.6 percent. This was less than half the average increase of 160,000 jobs per year from 1997 through 2001, and the smallest annual increase since 1993. Monthly employment data show an even more dramatic slowdown in services employment. Services payrolls decreased by 8,000 jobs for the year ending December 2001, a sharp reversal from the 212,000 job increase for the year ending December 2000. Although most service industries showed year-over job increases in December 2001, these gains were overshadowed by large year-over losses in business services and motion pictures (discussed below), and to a lesser extent, hotels and other lodging places.

The high technology and Internet boom fueled rapid employment growth in business services through much of the 1990s and 2000. As shown in Figure 4-6, which indexes monthly employment in business services and its component parts through March 2002 to their January 1997 level, most of the 334,000 new jobs created in business services from 1997 through 2001 came from personnel supply services (a key component of which is temporary help services) and computer programming (including software). Both industries have a strong information technology orientation. The third component, other business services, includes advertising and janitorial services, for example. Computer programming services and personnel supply services added 189,000 and 126,000 jobs, respectively, from 1997 through 2001.

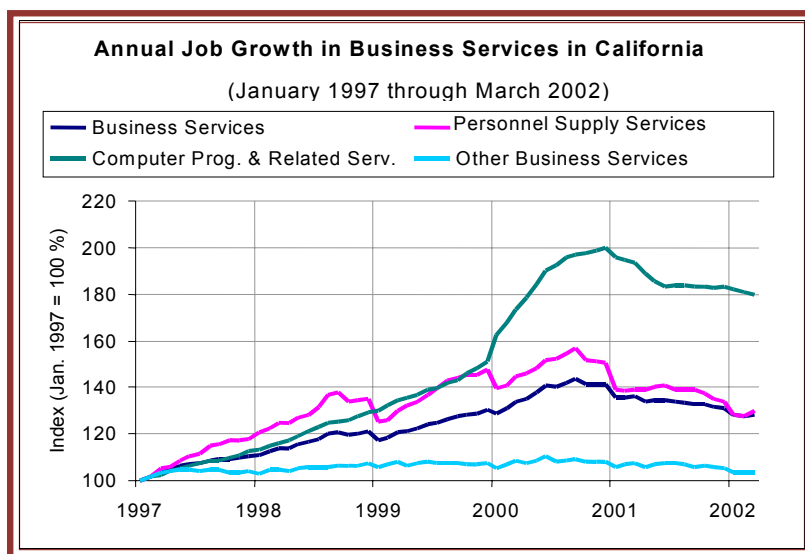


Figure 4-6

Computer programming and related services and personnel supply services fueled job growth in business services during the recent high technology boom but slumped in the economic downturn.

Job growth in business services came to a screeching halt in 2001 as a result of the global high technology slowdown and the shake out among dot-com firms that followed the bursting of the Internet stock market bubble (Chapter 2). Business services payrolls declined by

43,000 jobs in 2001. This was a stark reversal in trend. During the preceding eight years of economic expansion from 1993 through 2000, business services grew at an average rate of 79,000 jobs per year. Personnel supply services and other business services lost 36,000 and 8,000 jobs respectively in 2001, while computer programming services added just 200 jobs.

Monthly employment data showed an even deeper slowdown in business services. Job losses in business services totaled 90,000 for the year ending December 2001. Data for March 2002 revealed that business services had lost 123,000 jobs from its peak of nearly 1.4 million jobs in September 2000, and had posted monthly losses in 17 of the 18 intervening months.

Using annual average data, employment in motion pictures decreased 7,000 jobs in 2001. This followed a loss of 3,000 jobs in 2000. Monthly data, which better reflect the changes in economic conditions in 2001, showed a steeper 18,000-job loss for the year ending December 2001. Industry analysts believe that at least part of these losses reflect lower than typical hiring in 2001 after a ramp-up in production in late 2000 due to worries that the renegotiation of key union contracts within the industry might lead to disruptive work stoppages. These stoppages never materialized. The trend toward digitalized production, computer animation and computer-generated special effects has shifted some motion picture related employment growth into other industry categories (including computer programming in the business services industry group). However, these changes have also made motion picture production less location-specific. Run-away production to countries such as Canada, which provide subsidies to its local production industry, continues to be an industry concern.

Most industry groups in the services sector posted employment growth in each of the past five years, 1997 through 2001, led by engineering and management services (97,000 jobs), health services (85,000 jobs), social services (74,000 jobs), and private educational services (40,000 jobs). These same four industries also led employment growth in services in 2001, with each industry adding 10,000 or more jobs.

TRADE

The trade sector accounted for 3.3 million jobs in California in the year 2001, or 23 percent of the total nonfarm jobs. In 2000, employment in this sector increased 94,000 jobs, or 3 percent. This was the largest job growth reported in trade since 1988, and higher than the national increase of 2 percent. As with most other major industry sectors, the recession dampened employment growth in 2001. The trade sector added 40,000 jobs on an annual average basis in 2001, an increase of 1 percent. This was the smallest annual increase since 1994 (see Figure 4-7). Monthly employment data showed a smaller gain of only 8,000 jobs in

the trade sector for the year ending December 2001. This was less than one-tenth the number of jobs added in the years ending in December 2000 and 1999.

About one-quarter of trade jobs, or 811,000 jobs, were in wholesale trade in 2001. Wholesale trade lost 7,000 jobs in 2001, after having added only 5,000 jobs in 2000. In contrast, wholesale trade grew at an average annual pace of 23,000 jobs from 1997 through 1999.



Figure 4-7

The trade sector continued to add jobs in 2001 despite the economic slowdown, but did so at a slower rate. Employment held up better in retail trade than in wholesale trade.

On an annual average basis, retail trade employment increased by 47,000 jobs, or 2 percent, in 2001. Over the previous four years, 1997 through 2000, retail trade added jobs at an annual rate of 62,000 jobs, or 3 percent.

Eating and drinking establishments are the largest employers (954,000 jobs) within retail trade and registered the greatest absolute growth in 2001 and over the five-year period. Employment in eating and drinking establishments increased by 27,000 jobs, or 3 percent, in 2001. This was higher than its five-year average growth rate of 23,000 jobs from 1997 through 2001. Eating and drinking establishments added 113,000 jobs overall during these five years.

Three other retail trade groups added 27,000 jobs or more over the five-year period: miscellaneous retail trade (for example, bookstores and florists), furniture, home furnishings and home electronics stores, and building materials and garden supplies.

Monthly employment data show that retail trade added just 17,000 jobs for the year ending December 2001. This was less than one-fifth the number of jobs that retail trade added for the year ending December 2000. Eating and drinking establishments showed a year-over increase of 20,000 jobs in December 2001, while food stores and building materials and garden supplies both registered increases of more than 5,000 jobs. However, general merchandise

stores, apparel and accessory stores, and miscellaneous retail stores each had year-over losses of 5,000 jobs or more.

MANUFACTURING

Manufacturing payroll employment was slightly over 1.9 million in 2001, making up 13 percent of the nonfarm jobs in California. Over the five-year period, 1997 through 2001, manufacturing payrolls in California grew by 53,000 jobs, an increase of only 3 percent. This was by far the lowest growth rate among all other major economic sectors except mining, which lost jobs over the five years and is a sector in long-term decline. (See Figure 4-8 for annual average job growth in manufacturing.)

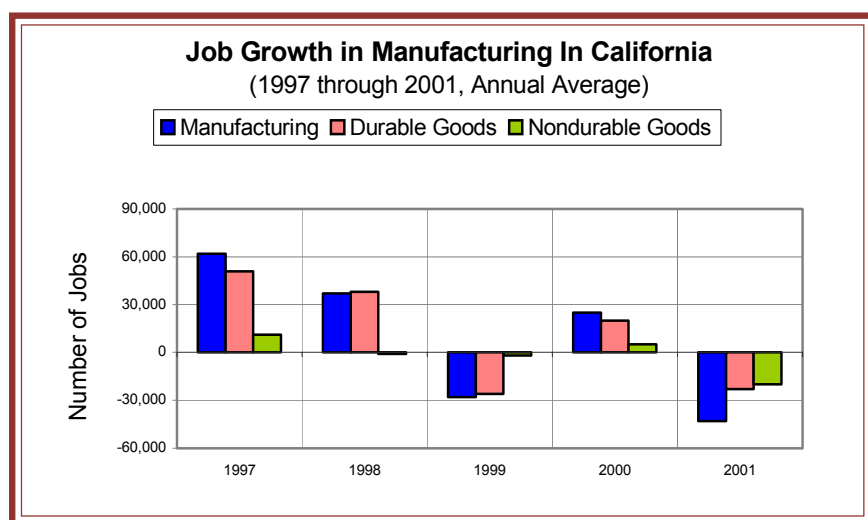


Figure 4-8

The manufacturing sector lost jobs for the second time in three years in 2001. Whereas the 1999 job losses were linked to a drop in trade related to the Asian financial crisis, the 2001 job losses were linked to the slowing national economy and global slump of the high technology sector.

Durable goods manufacturing accounted for 63 percent of California manufacturing employment in 2001, led by electronic equipment (269,000 jobs), industrial machinery (221,000 jobs), instruments and related products (182,000 jobs), and transportation equipment (145,000 jobs), principally composed of aircraft manufacturing. Detailed industries within these four industry groups are usually identified as California's high technology manufacturing. These industries continue to provide a large employment base despite significant industry "restructuring" prompted by defense cuts, consolidations, and changing international conditions. Growth trends in these industries from January 1997 through March 2002 are shown in Figure 4-9.

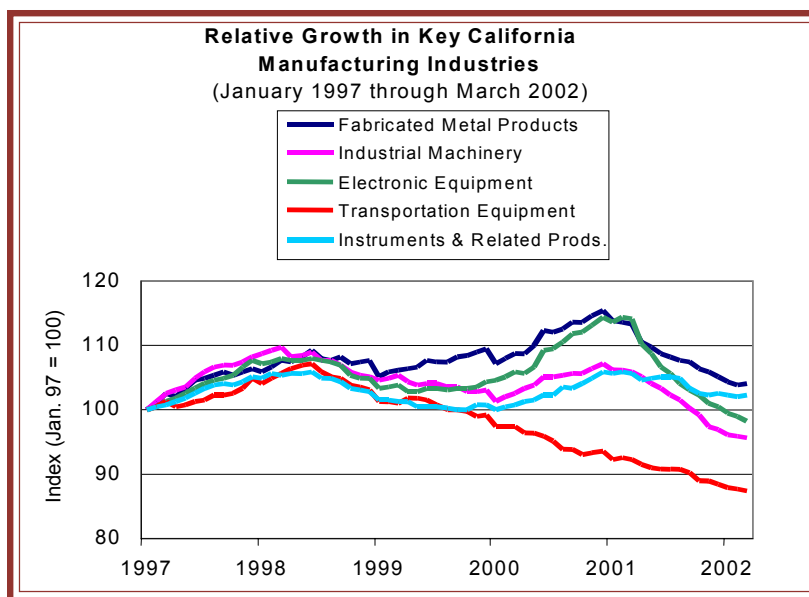


Figure 4-9

High technology manufacturing industries were the key sources of job growth in the recent expansion, but have all lost jobs in the current economic downturn.

Over the past five years, electronic equipment and fabricated metal products recorded the largest job gains in durable goods manufacturing, adding 22,000 and 10,000 jobs, respectively. Instruments and related products and industrial machinery each grew by 11,000 jobs. Transportation equipment employment decreased by 17,000 jobs, or 10 percent. However, these losses were substantially less than occurred in transportation equipment in the early 1990s when the aerospace industry underwent significant restructuring due to lower defense spending.²

Nondurable goods manufacturing employment was 705,000 in 2001. The largest nondurable goods industries were food and kindred products (187,000 jobs), printing and publishing (146,000 jobs), and apparel and other textile products (131,000 jobs). Over the five-year period from 1997 through 2001, nondurable goods manufacturing employment decreased 8,000 jobs. Only three nondurable goods manufacturing industries added jobs over the five-year period – chemicals and allied products (14,000 jobs), food and kindred products (10,000 jobs) and textile mill products (6,000 jobs). Each of the six other nondurable goods manufacturing industries lost jobs, led by apparel and other textile products (26,000 jobs).

The manufacturing sector was particularly hard hit by the economic recession in 2001. On an annual average basis, manufacturing payrolls fell by 43,000 jobs, or 2 percent. This marked the second time in three years that manufacturing employment fell. Despite these

² For example, transportation equipment lost 125,000 jobs, or 43 percent, over the 5-year period from 1991 through 1995.

losses, California's manufacturing sector has outperformed the nation's. U.S. manufacturing employment fell for the third consecutive year in 2001, declining by 4 percent, or twice California's rate.

Monthly employment data depict an even steeper decline. Manufacturing employment decreased by 125,000 jobs, or 6 percent, for the year ending December 2001. Durable goods manufacturing declined by 94,000 jobs, or 8 percent. Employment in electronic equipment and industrial machinery, which have a significant information technology orientation, suffered the highest year-over losses, decreasing by 33,000 and 21,000 jobs respectively. These two industries accounted for nearly 60 percent of durable goods manufacturing losses, and 43 percent of overall manufacturing job losses. As a result of these losses, employment in both industries fell below January 1997 levels (Figure 4-8). Each of the remaining eight durable goods manufacturing industries also showed year-over decreases.

Nondurable goods manufacturing declined by 32,000 jobs, or 4 percent. Apparel and other textile products (10,000 jobs) and printing and publishing (8,000 jobs) accounted for over half of these losses. Chemical and allied products showed a 1,000-job increase, and was the only one of manufacturing's 15 component industries to show a year-over gain in December 2001.

Employment data for the first three months of 2002 indicated a moderation in the pace of manufacturing job losses, suggesting that the beginnings of a recovery might be underway. Manufacturing employment decreased by a total of 6,000 jobs over these months, an average loss of 2,000 jobs per month. In comparison, manufacturing lost jobs at a pace of over 10,000 jobs per month in 2001. Nondurable goods manufacturing added 7,000 jobs, while durable goods lost 13,000 jobs. March 2002 data showed no sign that the slump for high technology manufacturing industries had abated.

GOVERNMENT

Government payroll employment accounted for than 2.4 million jobs in 2001, or 16 percent of the total nonfarm jobs in California. From 1997 through 2001, government payrolls increased by 270,000 jobs, or 13 percent. The lion's share of this employment growth was in local government, primarily local education, which added 255,000 jobs. State government

Annual Job Growth in Government in California (1997 through 2001, Annual Average)

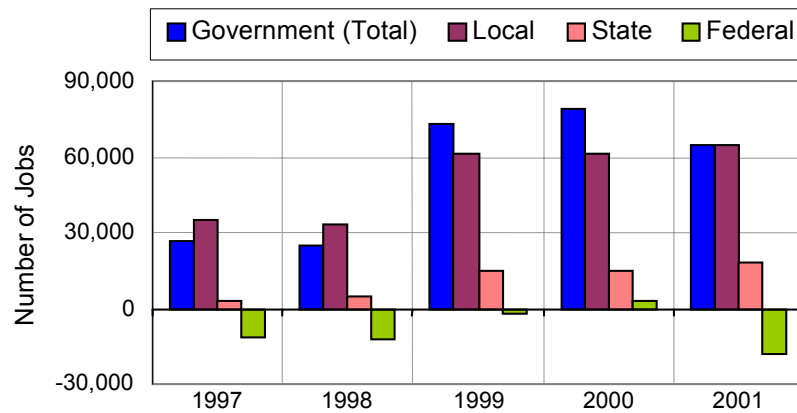


Figure 4-10

Government employment grew in each of the last five years, and added the most jobs among California's economic sectors in 2001. The large majority of this growth was in local government.

added 56,000 jobs. Federal government payrolls declined by 41,000 jobs, with the Department of Defense losing 30,000 jobs and other federal government losing 11,000 jobs.

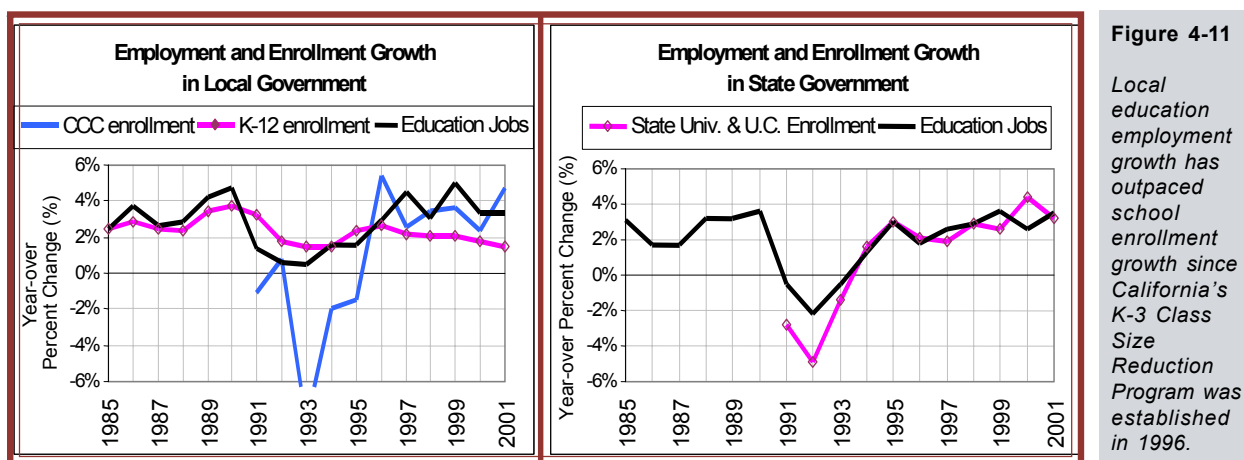
On an annual average basis, government gained 65,000 jobs, or 2.8 percent, in 2001. This marked the eighth consecutive year of government employment growth in California. In comparison, the over-the-year increase for the nation was 1 percent. Local government grew by 65,000 jobs in 2001. State government's gain of 18,000 jobs was offset by the federal government's loss of 18,000 jobs. Federal government had added to payrolls in 2000 for the first time since 1990 owing to temporary help hired for Census 2000.

Monthly employment data show that government gained 84,000 jobs for the year ending December 2001. This was far and away the largest year-over gain among California's major industry sectors in December 2001. Local and state government continued to grow, while federal government employment showed a year-over loss.³

Local education, which accounts for 57 percent of local government employment, has fueled the expansion in overall government employment. From 1997 through 2001, local education employment increased by 163,000 jobs, or 21 percent. Local education, which is comprised of K-12 schools and local community college districts, accounted for 61 percent of total government employment during the period. State education, which is made up of the California State University and University of California systems, also grew over the five-year period, increasing by 28,000 jobs, or 16 percent.

³ Year-over employment figures for state government mute the effects of the civil service hiring freeze that took effect in late October 2001.

Until recently, government education employment was largely determined by trends in school enrollment. Through 1996, local government education employment mirrored growth in K-12 enrollments, with employment increasing about 1.5 percentage points per year less than growth in enrollment. Likewise, state government education employment followed enrollment in California colleges and universities, though considerably dampening large swings in that student population.



Note: CCC is the abbreviation for California Community Colleges.

Sources: Employment data are annual averages from the Employment Development Department, Current Employment Statistics (CES) Program, 2001 benchmark. Enrollment data are from California Department of Finance, Demographic Research Unit, California K-12 Public Enrollment Projections by Ethnicity and California Public Postsecondary Enrollment Projections, 2001 Series.

However, trends in education employment diverged from enrollment with California's K-3 Class Size Reduction Program established in 1996. Incentive funding was provided to participating school districts for the purpose of implementing an average pupil-teacher ratio of 20:1 in up to four grade levels. Since 1996, K-12 enrollments rose 10 percent while local education employment rose 21 percent. Viewed differently, local education employment is more than 10 percent higher than enrollment growth alone would have predicted.

Barring additional mandates to reduce class sizes, education employment growth is expected to slow in the next several years, from near 4 percent to about 3 percent per year.⁴ Non-education employment in state and local government sectors is expected to remain near its current rate less than 2 percent per year. Nevertheless, education will continue to account for the majority (over 70 percent) of state and local government employment growth.

⁴ EDD Labor Market Information Division, Employment Projections by Industry, 1998–2008, at [http://www.calmis.ca.gov/file/indproj/cal\\$tb2.htm](http://www.calmis.ca.gov/file/indproj/cal$tb2.htm). Prior to publication of this report, Industry Projections were updated to 2000–2010.

SUMMARY AND OUTLOOK

California added nearly 2 million nonfarm payroll jobs from 1997 through 2001. Services, trade, construction, and government accounted for nearly 90 percent of these jobs, with services alone accounting for 41 percent. However, the pace of job growth slowed markedly in 2001, in all sectors but government. The effects of the economic downturn were felt most heavily in manufacturing and business services, which both lost jobs.

Job growth in construction, which was by far the fastest growing sector in the economy over the five-year period from 1997 through 2001, slowed sharply in 2001. Whereas a strong market for housing bolstered construction employment in 2001, commercial construction slumped badly. The outlook for construction is mixed. While strength in residential construction market should continue to boost employment, commercial construction was hard hit by the business downturn and its recovery is expected to lag behind the overall economy.

Services led California's job growth in recent years, adding nearly 800,000 jobs from 1997 through 2001. However, job growth in services in 2001 slowed to just one-third its record pace of 2000, and was negative when measured on a December 2001 year-over basis. Although most service industries added jobs in 2001, business services, which accounted for over 40 percent of the services job growth from 1997 through 2001, and motion pictures lost jobs. The job losses in business services in 2001 were attributable to the global high technology slowdown and shake out among dot-com firms that followed the bursting of the Internet stock market bubble.

The outlook for services favors continued, if more measured, job growth. Employment in tourism-related industries such as hotels and lodging places and amusement and recreation services will be boosted by economic recovery. Similarly, employment in business services will be boosted by recovery in the high technology and information technology sectors, which are expected to recover in the latter half of 2002 and into 2003. However, job growth in business services will be more modest than during the "Internet Rush" of the late 1990s and 2000.

Trade added jobs in 2001 despite the economic recession, although the pace of job growth slowed compared to previous years. While wholesale trade lost jobs in 2001, retail trade added jobs. Eating and drinking establishments added the most jobs in both 2001 and during the five-year period from 1997 through 2001, and are expected to grow in the future. Although economic recovery portends continued job growth in the trade sector, the strength of this growth will depend on consumer spending patterns.

Manufacturing was particularly hard hit by recession in 2001, after having grown at a slower rate than California's other key industrial sectors from 1997 through 2001. Manufacturing payrolls fell by 43,000 jobs in 2001 when measured on an annual average basis, and by 125,000 jobs when measured on a December 2001 year-over basis. Although the economic slowdown has affected nearly all manufacturing industries, job losses have been concentrated in high technology industries, and particularly electronic equipment and industrial machinery. The outlook for manufacturing is more optimistic. Employment in the sector is expected to stabilize and resume growth as the national and global economies recover in the latter half of 2002 and 2003. However, the pace of future manufacturing job growth will depend on the strength of national and global economies.

Government employment grew for the eighth consecutive year in 2001, and added more jobs than any other industrial sectors. As has been the case since 1996, local government, and particularly local education, accounted for the majority of government's job growth. Mandates to reduce class sizes underlie this rapid growth in local education. Whereas state government employment grew in 2001 and over the five-year period from 1997 through 2001, federal government employment declined. These employment trends are expected to continue in the next few years, with local education, and to a lesser extent, state education, fueling job growth. However, non-education government employment is expected to slow significantly as state and local governments grapple with budgetary constraints.

Chapter 5

OCCUPATIONAL EMPLOYMENT

Occupational information is important to planning employment and training programs, career development, and economic development activities. The LMID devotes a substantial portion of its resources to gathering, analyzing and publishing occupational information. The information is widely disseminated through publications and the LMID Website in formats targeted to specific customer groups, such as job seekers, career counselors, and training providers.

This is the first time occupational data are presented in *The State of the State's Labor Markets* (SOSLM) report. Other LMID occupational information products are designed to assist in some type of occupational choice – either by individuals making life decisions or by administrators and training providers targeting programs. The SOSLM, on the other hand, looks at California occupational employment from a macroeconomic perspective, focusing on aggregate trends and general classification.

This chapter examines the occupational mix – what economists call the labor component of the aggregate production function – both now and in the future. Sections discuss the skill requirements, wages and unemployment costs of the blend of occupations utilized by California industries.

A MODERN ECONOMY DEPENDS ON HUNDREDS OF OCCUPATIONS

Occupations are classifications of jobs according to the set of activities or tasks that the employee is paid to perform and the skills, education, training, and credentials required in the job. Employees who perform essentially the same tasks are in the same occupation, whether or not they are in the same industry.

Specialization is a keystone of modern market economies in that it boosts the quantity of goods and services that can be produced with inherently limited resources. Labor specialization has led to increasing numbers of distinct job activities so that more than 800 occupations are now identified under the Occupational Employment Statistics (OES) classification system.¹ With a

¹ Occupational labor statistics use three different occupational classification systems. This chapter will use the Occupational Employment Statistics (OES) classification system. Occupational employment, projected employment, education and training levels, and industry staffing patterns are based on the OES classification scheme used by the California Occupational Projections (1998-2008). Wage data by occupation are tabulated using the 1998 Standard Occupational Classification (SOC) system, which identifies 820 distinct occupations. Unemployment data by occupation are derived from the Current Population Survey (CPS) that continues to classify occupations based on the 1980 SOC system and distinguishes among 500 occupations. In the near future, occupational labor statistics will be standardized under the 1998 SOC system. California Occupation Projections for 2000-2010 were released in September 2002. While they are sometimes referenced in this chapter, the primary analysis are based on 1998-2008 occupational projections.

large, industrially diverse, and cutting-edge economy, California uses most occupations, with 605 occupations filling more than 1,000 jobs.

The Occupational Employment Statistics Program surveys employers regarding the occupational makeup of their workers and the wages paid to each. Employer reports are summarized by industry to create occupational staffing patterns. Summarizing these staffing patterns across all industries reveals the economy's overall use of occupations – in other words, California's occupational mix.

Some occupations, particularly those associated with general business functions, are used in many industries. For example, the State's 98,300 accountants and auditors in 1998 were employed in 137 different industries. Other occupations are related closely to certain industries. For example, dental assistants are employed in just five industries, with 97 percent working in dental offices. Many industries, on the other hand, use many other occupations in addition to such industry-affiliated occupations.

Despite the large number of occupations, California employment is concentrated in relatively few occupations. One-quarter of all California jobs are in just 13 occupations, each having more than 175,000 jobs. Half of state payroll employment is devoted to only 45 occupations, each having 69,000 workers or more. Three-quarters of California payroll jobs are in 125 occupations, each of which have over 28,000 California workers. The concentration of employment in a few occupations means the majority of occupations encompass very few jobs. The last 25 percent of California jobs is spread among the remaining 480 occupations, each with fewer than 28,000 workers, or 0.1 percent of total employment.

The four largest occupations fill more than 300,000 California jobs each. They are retail salespersons (423,100 jobs), general managers and top executives (366,600 jobs), general office clerks (354,000 jobs), and cashiers (307,100 jobs).² Together these four occupations comprise 1.5 million jobs.

² In the Current Population Survey (CPS), the source of these data, retail salespersons is a broad category including 12 occupations, one of which is cashiers. The other 11 sales occupations are differentiated by what they sell (e.g., furniture, apparel, and motor vehicles). To match the OES definition of salespersons, which excludes cashiers and is indifferent to the product sold, the rate shown is the sum of unemployment in the 11 non-cashier sales occupations divided by the sum of the experienced labor force for the 11 occupations.

Consider the characteristics of these largest occupations:

- Three of the four largest occupations have average hourly wages less than twice the current minimum wage of \$6.75 per hour. This includes general office clerks (\$12.25), retail salespersons (\$10.50), and cashiers (\$9.00). At the other end of the spectrum, general managers' average hourly wage is \$43.75.
- One can qualify for the same three out of four occupations with four weeks or less of on-the-job training. In contrast, general managers are expected to have gained skills working in a related occupation (i.e., work experience) as well as have a bachelor's degree or higher.
- There is an inverse relationship between wages and unemployment experience. The highest-paid of the four, general managers, had the lowest 2001 unemployment rate (2.9 percent) among the four. Unemployment rates rose as pay fell across the other three largest occupations: general office clerks (5.8 percent), retail salespersons (5.9 percent), and cashiers (9.0 percent).
- Relative job growth over the 10-year period 1998-2008, as projected by LMID was lowest among the "big four" for retail salespersons and highest for general managers, but differences in growth pace would amount to less than one-half a percentage point per year. The four occupations combined were projected to add 314,000 jobs over the 10-year period 1998 to 2008. In the newly released projections for 2000-2010, the four occupations would add as many as 450,000 jobs over the ten year period.³

Obviously pay, training requirements, and the likelihood of unemployment vary among the individuals working in an occupation, due, for example, to differences in geographic location, unionization, and tenure with the current employer. For example, even though the median wages of non-union entry-level cashiers in Alameda County is \$7.42, pay ranges from \$6 to \$10 per hour. In order to emphasize the influence of occupational mix on the economy, this chapter ignores "in-occupation" wage variations. Aggregate data regarding skills, wages and unemployment are employment-weighted averages of the data for each occupation.

³ The occupational projections used in this report, 1998-2008, were produced during the extended economic expansion discussed in Chapter 1. The 2000-2010 occupational projections published this summer show a moderation in employment growth in many occupations.

PRODUCTION AND PROFESSIONAL OCCUPATIONAL GROUPS AFFILIATE THE MOST OCCUPATIONS AND FILL THE MOST JOBS

To provide a more manageable picture of California's occupational mix, individual occupations are combined with others performing similar tasks into seven major occupational groups under the OES classification system. The distribution of California occupational employment among the seven groups and the three largest occupations in each group, except agriculture, are shown in Figure 5-1.

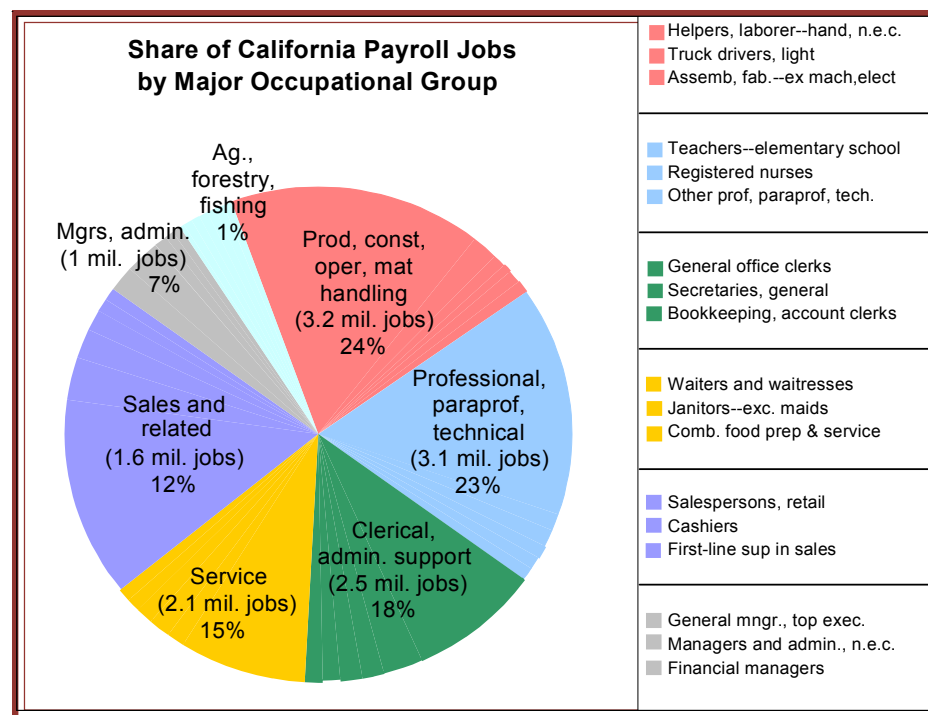


Figure 5-1

More than 3 million California jobs are classified as production, construction and operator occupations. Another 3 million are professional, paraprofessional and technical. The largest occupations within groups are given for every group except agriculture, because one occupation, laborers, make up two-thirds of the group's tiny occupational employment.

Source: LMID Occupational Projections, 1998 estimates, by OES code. "N.e.c." is the abbreviation for not elsewhere classified.

The two largest occupational groups, production, construction, operators and material handlers and professional, paraprofessional and technical encompass a wider variety of tasks and require more specialized, even unique, skills, compared to other groups. Production occupations include 251 occupations. Professional and paraprofessional occupations include 177 occupations. In contrast, each of the other occupational groups encompass between 10 and 73 occupations.

Further, no occupations dominate employment in the production or professional occupational groups. The five most-utilized occupations in these two groups contributed less than one-quarter of the total employment in each group. Other groups are dominated by a few

occupations with the sharpest contrast in agriculture, forestry, and fishing occupations, where the five most-used occupations make up 92 percent of the total group employment.

Readers who are not familiar with the industry and occupational classification systems may notice that service occupations have a smaller slice of the occupational employment pie than the services sector does of the industry employment pie. Despite a shared name, there is no close industry-occupation connection between the services occupation (making up 15 percent of jobs) and the services industry (making up 31 percent).

THE GREATEST NUMBER OF JOBS ARE IN OCCUPATIONS WITH MEAN WAGES NEAR \$11 PER HOUR

This section examines the relationship between wages and occupations, as reported by employers under the Occupational Employment Statistics (OES) Program survey,⁴ using the OES occupational classification system and 1998 employment estimates introduced in the preceding sections.⁵

An ordered array of occupations by the wages earned in each occupation is the simplest depiction of the occupation-wage connection (Figure 5-2). Of the 605 OES occupations with more than 1,000 California workers, wages could be estimated for 565. Every 50th occupation and its mean wage are labeled.

Occupational wages range from \$6.75 (the minimum wage) paid to dining room attendants and bar helpers to \$70 per hour (the top-coded wage in the OES survey) paid to dentists. Without regard to employment by occupation, the middle, or median, wage across occupations is \$16.25 per hour and the average, or mean, wage is \$18.25. The \$2 difference is an indication that more occupations pay low-end wages than pay high-end wages.

⁴The OES survey is an annual mail survey estimating occupational employment and occupational wage rates for wage and salary workers in nonfarm establishments, by industry, by standard occupational classifications (SOC). The survey samples about 37,000 establishments per year, taking 3 years to fully collect the sample of approximately 113,000 establishments in California. The 2000 survey is the second year in the current cycle. Wages collected in 1999 and 2000 have been restated in 2001 dollars using the employment cost index published by the U.S. Department of Labor. Further, wages were “top coded” at \$70 per hour and “bottom coded” to the prevailing minimum wage when the data were published, \$6.25 per hour. As of January 1, 2002, the minimum wage is \$6.75 per hour.

⁵Wage data by standard occupational classifications (SOC) were converted to OES codes using an OES-SOC crosswalk developed by LMID, available at <http://www.calmis.ca.gov/file/occxwalk/oessocxk.xls>. The crosswalk relates every SOC occupation to one or more OES occupations and every OES occupation to one or more SOC occupations. However, there are no common base period statistics showing how the employment of an occupation under one system should be apportioned among as many as eight corresponding occupations under the other classification system. Therefore, the wages by OES codes were approximated as the 2000-employment-weighted average of the mean hourly wages in corresponding SOC occupations.

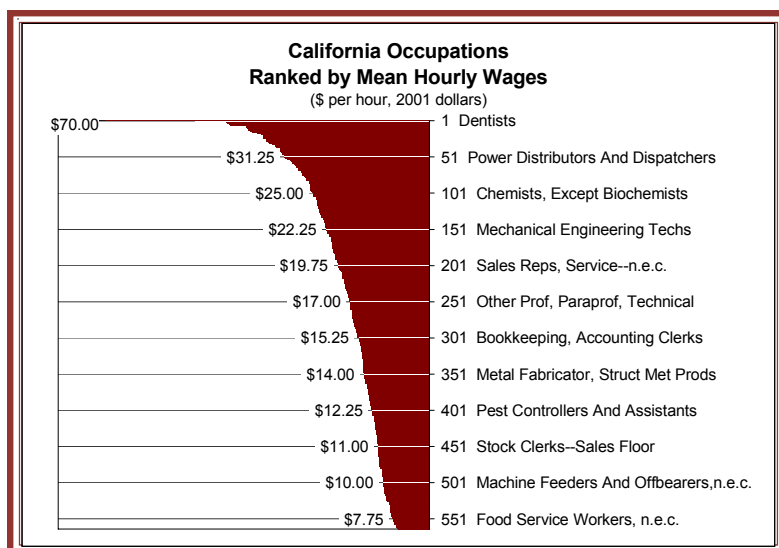


Figure 5-2

The highest earnings (rank #1) are those paid to dentists. By the 51st ranked occupation, power distributors and dispatchers, mean wages had dropped by half. At the other end of the spectrum, food service workers, not elsewhere classified, are ranked #551 with mean hourly wages of \$7.75.

Source: Wages are LMID Occupational Employment Statistics (OES) Survey, converted to OES code. The mean hourly wage for each OES occupation is the 2000 employment-weighted average of mean wages in the corresponding SOC occupations, rounded to the nearest quarter dollar.

The concentration of occupations paying lower wages is heightened by the concentration of employment in lower-paying occupations. This compounding effect is visible in the distribution of California jobs by occupational mean hourly wages, depicted in Figure 5-3. Each data point on the line represents the number of jobs with occupational mean hourly wages within the stated 50-cent increments. The top wage scale is truncated to \$40 per hour because there are only seven detailed occupations whose mean hourly wages were higher. Ninety-six percent of California jobs pay \$40 or less per hour and are depicted in the figure below.

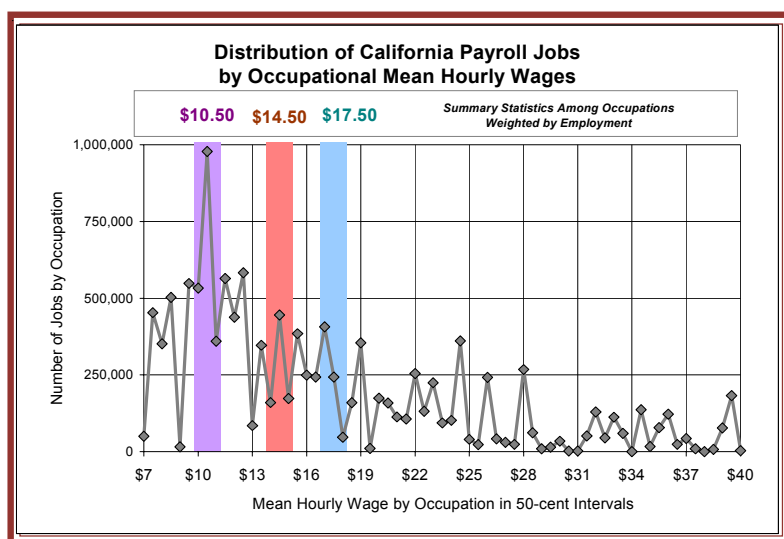


Figure 5-3

Employment is skewed toward occupations paying lower wages. This is shown by the fact that the median hourly wage among occupations is much less than the mean hourly wage among occupations.

Source: Employment is LMID Occupational Projections, 1998 estimates, by OES code. Wages are LMID Occupational Employment Statistics (OES) Survey, converted to OES code. The summary statistics are the 1998 employment-weighted mode, mean and median wages of individual occupations, rounded to the quarter dollar.

The skewed distribution is visible in Figure 5-3, and proved by summary statistics. The employment-weighted median occupational wage is \$14.50 per hour.⁶ This is well below the employment-weighted mean of \$17.75 per hour. In a normal, bell-shaped distribution, the mean, median and mode would be the same.

California employment is highest in occupations paying between \$10.50 and \$10.99 per hour. There are almost 1 million Californians working in occupations that pay in that range, accounting for 8 percent of total payroll jobs. This is the “mode” of the employment-weighted wage distribution, which is to say, it is the most frequent occupational hourly wage.

Note that the “serrated” pattern of the distribution is the result of using wage ranges and of attributing occupational average characteristics to all workers in that occupation, even though workers in any occupation are distributed about the mean wage. For example, the mean hourly wages for computer programmers is \$33, however 25 percent of programmers were paid \$24 or less per hour and 25 percent were paid more than \$41.50 per hour. By ignoring “in-occupation” wage variation, this analysis overstates the extent to which wage patterns are due to the occupational mix.

How do wages vary by type of occupation? Figure 5-4 shows the employment-weighted mean hourly wage (vertical axis) and jobs (horizontal axis) for the seven major occupational groups. The highest paying occupational group is managers and administrators at \$38.25 per hour. The second highest mean wage is \$25.75 per hour for professional occupations. Because of the large number of jobs in such occupations, they wield more economic influence than those occupations classified as managers and administrators. Interestingly, the employment-weighted mean wages for three occupational groups – sales and related occupations, clerical and administrative support, and production, construction, operators and material handlers – are within 50 cents of each other, varying from \$14.75 to \$14.25 per hour. Only agricultural, forestry and fishing occupations pay less than \$10 per hour on average.

⁶The median wage is the wage that exactly splits employment – half of employment is in occupations paying less than the median, and half of employment is in occupations paying more than the median.

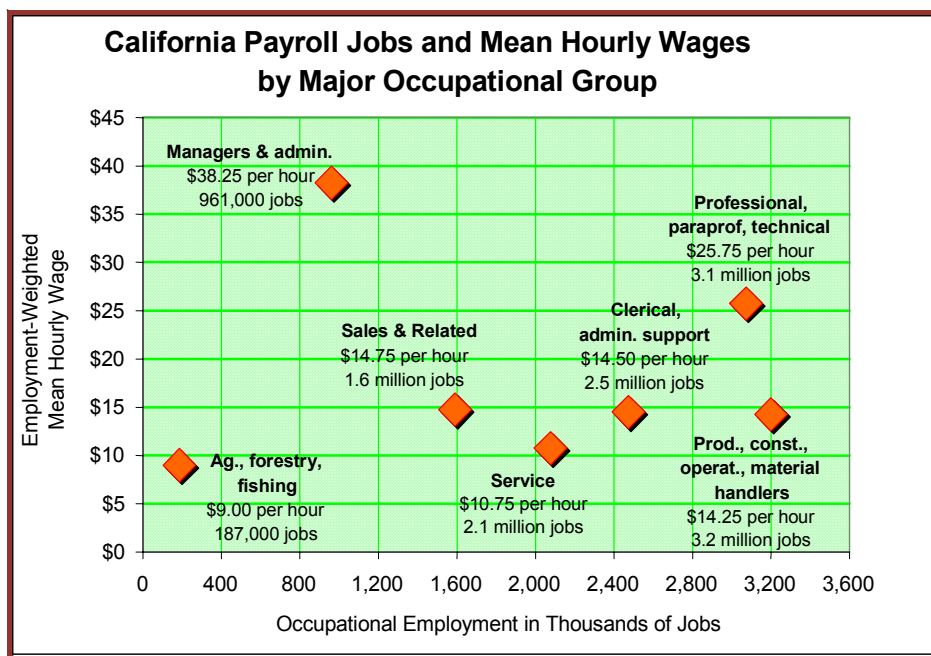


Figure 5-4

Manager and administrator occupations earn the highest mean hourly wages among OES occupational groups, while agriculture, forestry and fishing occupations pay the lowest mean hourly wages.

Source: Employment is LMID Occupational Projections, 1998 estimates, by OES code. Wages are LMID Occupational Employment Statistics (OES) Survey, converted to OES code. Group mean hourly wage is the 2000 employment-weighted average of mean wages in individual occupations, rounded to the quarter dollar.

OVER HALF OF THE JOBS ARE IN OCCUPATIONS THAT REQUIRE ON-THE-JOB TRAINING ONLY

The Bureau of Labor Statistics (BLS) has summarized the education and training requirements for occupations in eleven training levels.⁷ Although there is more than one way to qualify for a job, the education and training levels in the BLS classification system reflect the manner in which most workers become proficient in that occupation and the preferences of most employers regarding how skills are acquired.

Complete descriptions of the BLS levels are included in the glossary. In brief, six levels pertain to formal training – either academic (from Associate to Professional [e.g., law] degrees) or postsecondary vocational education. Two levels pertain to work experience – acquiring skills obtained through work experience in a related occupation – either alone or in combination with a bachelor's degree or higher. The three remaining BLS training levels distinguish between occupations with comparable formal educational requirements, but different skill levels, by estimating the length of on-the-job training (OJT) that is required to obtain the needed skills. There are three OJT categories: long-term OJT (12 months or more), moderate-term OJT (one to 12 months), and short-term OJT (four weeks or less).⁸

⁷ More information can be found at <http://www.calmis.ca.gov/file/resource/BLSTrainLv1.htm>.

⁸ For example, neither carpenters nor laborers require formal education beyond high school, but carpentry work is more complex. So carpenters are identified as needing 12 months or more of on-the-job training while laborers are identified as needing four weeks or less of on-the-job training.

The number of jobs by occupational education and training requirement level is shown in Figure 5-5. The largest number of California jobs are in occupations that require short-term on-the-job training (5.4 million), followed by employment in occupations requiring a bachelor's degree (1.8 million). All together, 55 percent of California jobs are in occupations requiring only on-the-job training. Almost one-third of California jobs are in occupations requiring an academic degree. Skills obtained through work experience in a related occupation are the minimum qualification for 7 percent of jobs while work experience plus a bachelor's degree or higher is the minimum qualification for another 7 percent of jobs.

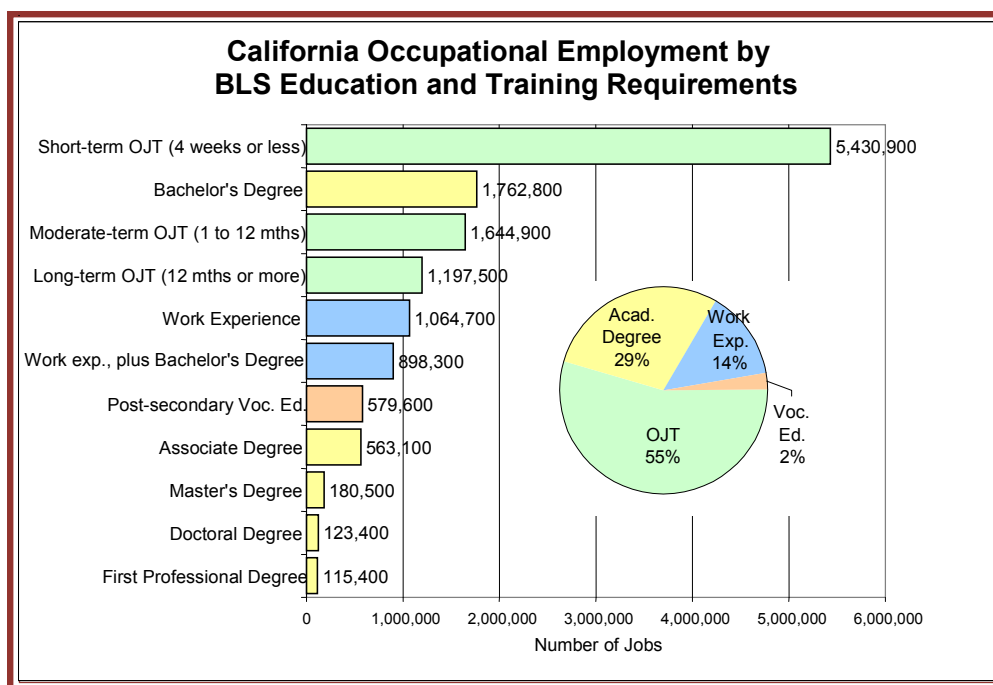


Figure 5-5

Most California jobs require no formal training. Rather, 55 percent require on-the-job training.

Source. LMID Occupational Projections, 1998 to 2008 and U.S. Bureau of Labor Statistics (BLS) education and training scale.

As one would expect, there is a direct correlation between the education and experience level required to perform an occupation and the wages paid. This is demonstrated in Figure 5-6. Occupations for which employers provide on-the-job training are paid less than occupations requiring formal education. The range of wages (the wage of the highest 10 percent to the wage of the lowest-paid 10 percent) increases with education and experience. This is because higher skills and education qualify workers for a wider choice among occupations.

The BLS training levels can be equated with a categorical scale of 1 to 11, with 1 being the most demanding skill level (first professional degree) and 11 being the least demanding skill level (four weeks or less of on-the-job training). The employment-weighted average training level required by California's occupational mix is 8.6. This indicates the average training expectation among occupations economy-wide is midway between work experience and long-term (12 months or more) on-the-job training.

There is significant variation in the training level required among occupational groups. On average, managers and administrative occupations require work experience and a bachelor's degree or higher. Professional, paraprofessional, and technical occupations on average require a bachelor's degree. Only agriculture, forestry, and fishing have an average BLS level of on-the-job-training of 4 weeks or less. Employment-weighted BLS training levels indicate the other occupational groups require on-the-job training of one to 12 months.

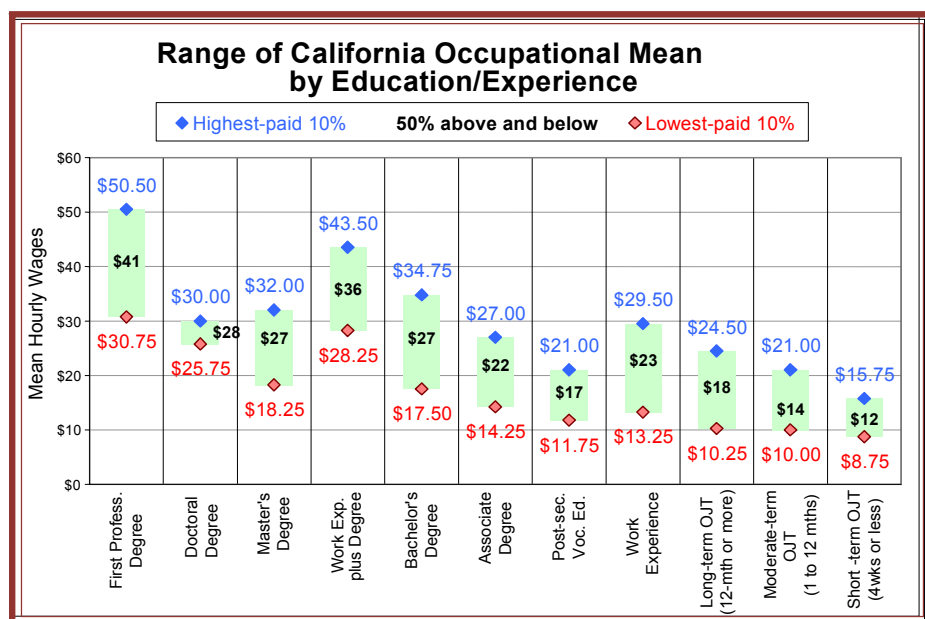


Figure 5-6

Better education and experience qualify workers for occupations that pay a higher wage.

Source: Employment is LMID Occupational Projections, 1998 estimates, by OES code. Wages are LMID Occupational Employment Statistics (OES) Survey, converted to OES code, rounded to the quarter dollar.

The occupational mix will change little over the next 10 years. Given that skill requirements for occupations are also stable, the employment-weighted average BLS education experience level in 2008 would be nearly identical to the average education and experience level in 1998. Over half of new jobs over the ten-year period will require only on-the-job training (1.7 million). Occupations requiring an academic degree will add 928,300 jobs (29 percent of total additional jobs). About 450,000 of net job growth 1998 to 2008 will require work experience either alone or with a bachelor's degree and 78,300 new jobs will require post-secondary vocational training.

UNEMPLOYMENT RATES VARY BY OCCUPATION

The unemployment experience of Californians by occupation comes from special tabulations of the Current Population Survey (CPS).⁹ The CPS is a nationwide household survey conducted monthly by the U.S. Bureau of the Census. BLS uses the survey to determine an individual's labor force status – employed (those who have jobs), unemployed (those actively looking for work), or not in the labor force (neither employed nor unemployed). The CPS identifies the occupations in which the employed currently work and the occupations in which the experienced unemployed last worked. The unemployment rate of an occupation is the number of unemployed who last worked in the occupation divided by that number plus the number of persons currently working in the occupation.¹⁰

Of the 500 occupations in the CPS coding system, California had an experienced labor force over 1,000 persons in 411 occupations in 2001.¹¹ Due to small sample sizes, however, only statistics regarding occupations with an experienced labor force of 30,000 or more are considered statistically significant. California had 145 occupations meeting this publication guideline. The following discussion pertains to these 145 occupations.

Unemployment rates by occupation ranged from 0 to 35 percent in California in 2001. None of California's experienced unemployed reported having last worked as a public administrator or official, physician, telephone installer and repairer, or in drafting occupations. As a result, these occupations' unemployment rates were 0 percent. The highest occupational unemployment rate of 35.4 percent was among graders and sorters of agricultural products.

The average unemployment rate among occupations (without regard to size) was 5.3 percent and the median or "middle" rate was 4.1 percent. This difference indicates the distribution of occupations is remarkably tilted toward lower unemployment rates. Expressed differently, more than one-third of occupations had unemployment rates under 3 percent but only one-tenth had rates over 10 percent.

⁹ These data are not available in regularly published sources. They are tabulated directly from "micro data" – or individual responses – to the survey available through the Federal Electronic Research and Review Extraction Tool (FERRET) on the Web at <http://ferret.bls.census.gov/cgi-bin/ferret>.

¹⁰ Readers should note three points. First, occupational classifications and titles discussed in this section may differ slightly from those used elsewhere in the chapter. CPS data are based on 1980 SOC codes for which no crosswalk to new SOC or OES codes could be found. Also, the household survey relies largely on "job titles" to classify individuals by occupation. This is a less precise method than examining job duties and skill requirements. Second, statistics from the CPS are counts of persons and include the self-employed and agricultural industries. Third, the unemployment rate is a good indicator of the likelihood that individuals in an occupation will experience unemployment. However, there is no information regarding the occupations in which the unemployed are looking for work.

¹¹ This range is for occupations with an experienced labor force of 30,000 or more in 2001. This complies with BLS publication standards. Estimates for smaller occupations would not be statistically valid.

Occupations with 2001 unemployment rates of 10 percent or more and more than 30,000 experienced labor force are listed in Figure 5-7. Generally, occupations with higher unemployment rates are engaged in seasonal work (such as graders and sorters, farm workers, and carpenters). High occupational unemployment also occurs where employment arrangements “institutionalize” recurring periods of unemployment (such as actors in the movie industry and employees of temporary help agencies), and in occupations associated with industries undergoing technological or cyclical change (such as for electric/electronic assemblers).

Occupations with California Unemployment Rates Over 10% in 2001		
Detailed Occupational Categories	Experienced Labor force (Number of Persons)	Unemployment Rate
Grader and sorter, agricultural products	46,000	35.4%
Farm workers	229,400	24.6%
Graders and sorters, except agricultural	35,200	23.8%
Electrical/electronic equipment assemblers	75,000	17.0%
Packaging and filling machine operators	45,900	16.2%
Freight, stock, and material handlers, n.e.c.	83,700	16.1%
Hand packers and packagers	63,900	14.6%
Actors and directors	50,800	13.3%
Early childhood teacher's assistants	54,100	13.1%
Industrial truck and tractor equipment operators	63,600	12.4%
Sales occupations, other business services	96,200	11.5%
Street and door-to-door sales workers	30,400	11.0%
Supervisors, food preparation and service occupations	58,500	11.0%
Textile sewing machine operators	92,300	10.8%
Laborers, except construction	146,500	10.5%
Carpenters	170,700	10.2%

Figure 5-7

Occupations with high unemployment rates are primarily those involved in seasonal work. Current recessionary conditions drive up occupational rates across the board, but particularly in occupations associated with the hardest hit industries, such as electrical equipment assemblers.

Source: U.S. Bureau of Labor Statistics, Current Population Survey (CPS), special tabulation of the survey.

THE UNEMPLOYED ARE REPRESENTED IN HUNDREDS OF OCCUPATIONS

Figure 5-8 lists the largest occupations, those with 150,000 Californians either employed in the occupation or experienced in the occupation but currently unemployed. Very low unemployment rates are an indication of “occupational shortages,” which is to say employer demand for workers exceeds the supply of workers at the current wage. For example, elementary school teachers recorded an unemployment rate of 1.0 percent in 2001. Such a shortage is perhaps attributable to California’s push to smaller class sizes discussed in Chapter 4.

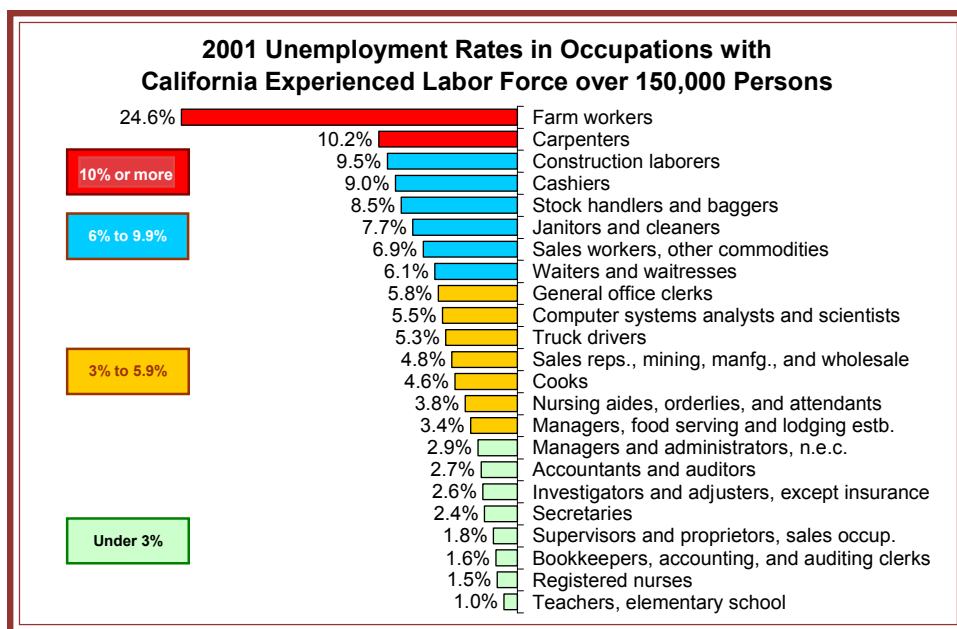


Figure 5-8

Under the CPS coding system, there were 23 occupations in California with an experienced labor force over 150,000. Reflecting the range of conditions in occupational labor markets, two occupations experienced unemployment rates over 10.0 percent and four had rates under 2.0 percent.

Combining occupational labor force with occupational unemployment rates, Figure 5-9 shows the distribution of California's experienced labor force by occupation-specific unemployment rates. Viewed in this way, the occupation-specific unemployment rates represent the probability that someone in the occupation will become unemployed. Despite a statewide

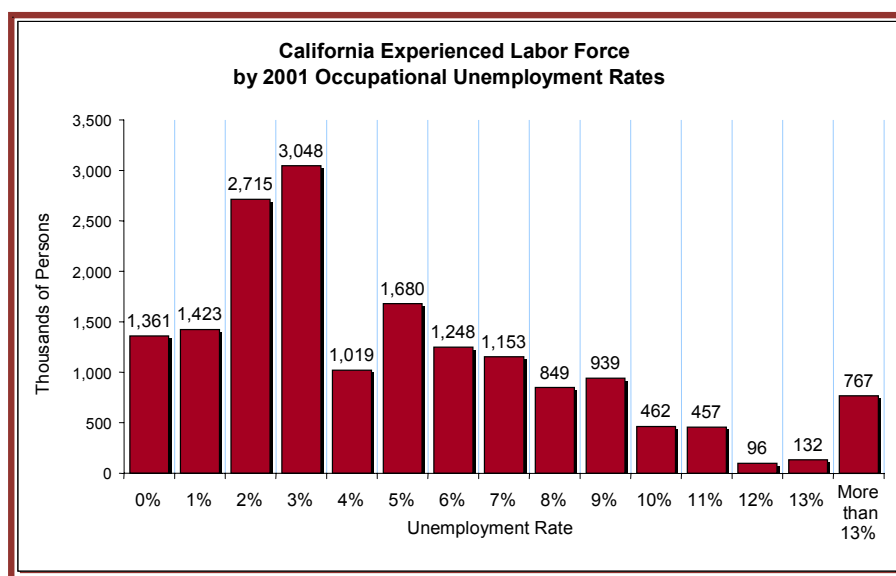


Figure 5-9

Over 3 million Californians worked or had last worked in occupations with unemployment rates of 3 percent in 2001.

unemployment rate above 6 percent, the majority of Californians work or had last worked in occupations with an unemployment rate of 4 percent or less.

Figure 5-10 shows the occupational groups of the experienced unemployed in California in 2001.¹² As was seen with employment, unemployed Californians are spread throughout many occupations. Farm workers, cashiers and managers comprise the largest shares of unemployed, accounting for 4 percent or more of the experienced unemployed. Ten other occupations each contribute 2 percent of the unemployed. Five occupations each contribute 1 percent of the unemployed.¹³

PROFESSIONAL OCCUPATIONS WILL SEE THE MOST NEW JOBS AND FASTEST RATE OF JOB GROWTH

The preceding section describes the current California labor mix. What will the future labor mix look like? LMID projections by occupation estimate the changes in occupational employment over a ten-year period. Changes in the number, size and industry of employers will affect the demand for certain occupations. Also, technological advances or changes in laws or regulations may affect the occupational mix.

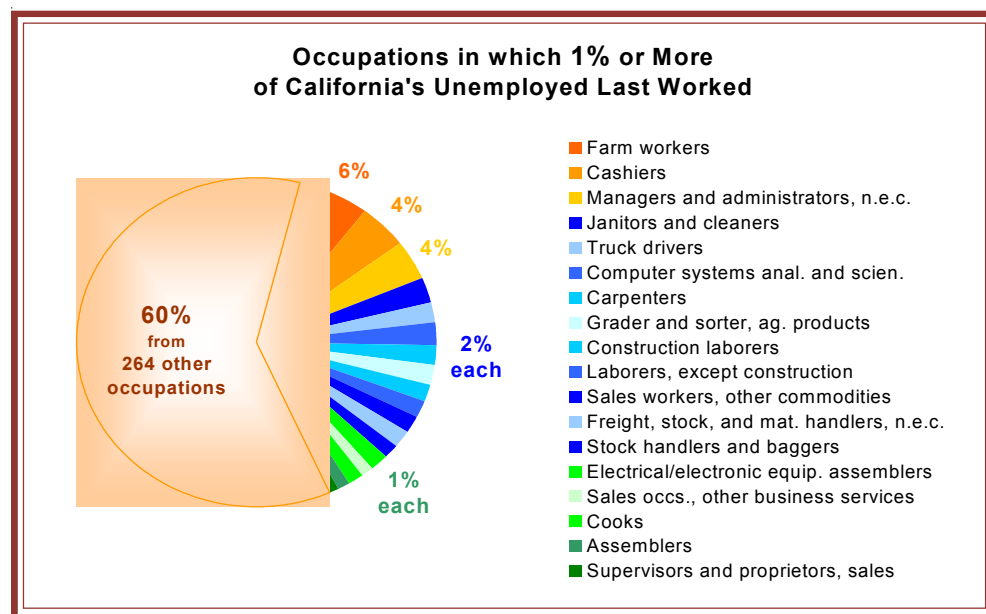


Figure 5-10

Some occupations, like managers are a large numeric share of unemployment, despite a relatively low unemployment rate because they are simply big occupations.

Source: Bureau of Labor Statistics, Current Population Survey, special tabulation of micro data.

¹² The total unemployment (size of the pie) includes all occupations, even those that did not meet BLS publications standards. Only individual occupations which did meet BLS publication standards are mentioned by name.

¹³ The occupational make-up of Unemployment Insurance (UI) claimants may differ from that of all unemployed. Occupational data are collected from a small sample of individuals filing UI claims, but these data have proven unreliable for analytical comparisons.

According to the latest LMID occupational projections, over the 10-year period 1998 to 2008, California will gain an additional 3.2 million jobs due to economic growth and 3.6 million jobs will become available due to separations.¹⁴

Projected increases in occupational employment can be measured by both absolute change (in number) and relative change (in percent). Large absolute growth would indicate there would be increasing demand for the occupation, with many opportunities for additional employment. Large relative growth in the near term would indicate increasing opportunities for individuals in the field, and the possibility of increasing wages. Figure 5-11 shows both employment growth dimensions – absolute and relative – for the seven major occupational groups.

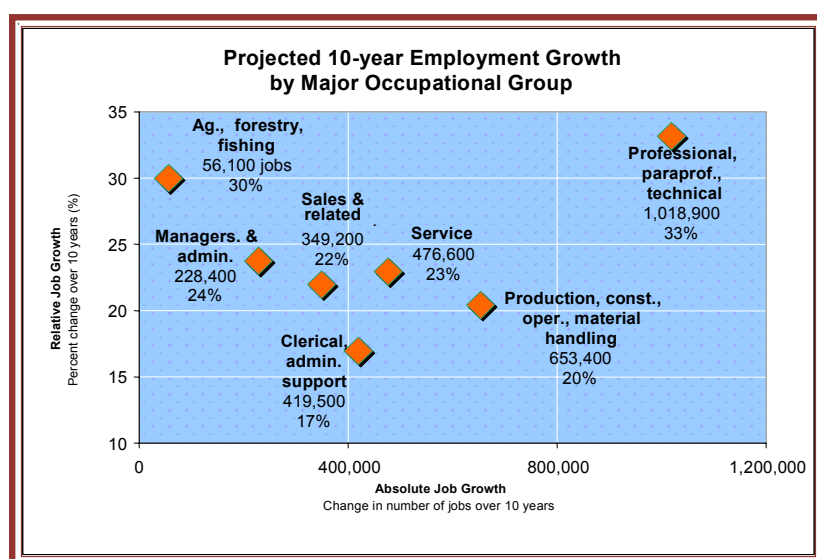


Figure 5-11

The professional, paraprofessional and technical occupational group will lead the other groups in both relative and absolute job growth over the 1998-2008 period.

Source: LMID, Occupational Projections, 1998-2008, by major OES code.

Professional, paraprofessional and technical occupations are projected to experience the greatest absolute (1,019,000) and relative job growth (33 percent). Three other occupational groups are expected to add more than 400,000 jobs and the remaining three groups are projected to add fewer than 350,000 jobs. The smallest absolute gain will be recorded in agriculture, forestry and fishing occupations. However, in a group with little employment, the addition of 56,000 jobs is a 30 percent increase. This would be the second fastest relative job growth rate among the groups.

¹⁴ As stated previously, California projections show fewer jobs being added over the 2000-2010 period than was foreseen when the 1998-2008 projections were published.

Nine individual occupations are expected to add 50,000 jobs or more over the 10-year projection period as a result of growth. Chief executives, which include top managers of small businesses, general office clerks, retail salespersons, cashiers, and computer systems analysts, lead these largest gainers.

On a percentage basis, employment in computer related occupations were expected to see extreme growth rates, as high as 113 percent, in the 1998-2008 projections. Computer and information scientists, research, desktop publishers, computer systems analysts, and computer support specialists were projected to see employment increase by 90 percent or more. However, as a result of the current downturn in the information technology industries, employment growth in these occupations are more moderate in the 2000-2010 projections released this summer.

Forty-four occupations are projected to experience employment declines over the 10-year projection period, 1998 to 2008. The largest job loss is projected for word processors and typists (down 11,000). Most of the declining occupations reflect changing business practices and technology, such as typists and tellers.

Five occupations will see 100,000 jobs or more come open as a result of separations from 1998 to 2008.¹⁵ In descending order of projected separations, the five occupations were retail sales persons, cashiers, waiters and waitresses, general office clerks, and service and combined food preparation. The occupational projections reveal the continued availability of jobs for workers with few skills.

Teaching occupations are not only projected to experience a large number of job openings due to separations, but also employment increases due to growth in the demand for such occupations. Secondary school teachers, for example, are expected to have 49,000 jobs openings from separations, plus 48,000 new jobs from demand growth. That combines for a total increase of 76 percent over 1998. Elementary school teachers are expected to see similarly large numbers of separations and job growth for a total gain of 91,000, or 51 percent.

¹⁵ "Openings Due to Separations" is an estimate of the number of people expected to leave the occupation permanently. Individuals may leave for another occupation, leave the occupation due to retirement, or leave for personal reasons. However, these jobs need to be replaced by workers new to the occupation. If the occupation is expected to lose jobs, some will not be replaced.

SUMMARY

The occupational mix is an important and stable factor in California economics. The State's economy relies on workers from over 600 distinct occupations. Likewise, most occupations are part of the normal staffing pattern in at least a dozen industries. The variety of occupations open opportunities for individuals to find work that suits their skills and talents. The industrial diversity of occupational demand expands labor markets to the benefit of both employers and individuals.

The number of jobs in any given occupation ranges from 1,000 to 425,000. Most occupations are relatively small, with half of all occupations filling fewer than 7,000 jobs. The combination of just 15 occupations, each having more than 150,000 jobs, accounted for one quarter of the State's payroll employment in 2001. Hence, California employment is concentrated in larger occupations. Retail salespersons, general managers and top executives, general office clerks, and cashiers are the largest occupations in the State, filling 300,000 to 425,000 jobs each.

Mean hourly wage by occupation varies from under \$7 (just over the minimum wage) to \$70 per hour, with the largest number of occupations paying between \$10.50 and \$10.99 per hour. The overall average occupational wage is \$18.25 per hour, but there are more occupations that offer low-end wages than there are occupations offering high-end wages. As a result, the "middle" or median rate of pay across California occupations is \$2 lower at \$16.25 per hour. The employment-weighted overall average hourly wage is \$17.75 per hour. Not only does pay increase with experience and education, but occupational choices expand, hence the wider range of pay at higher skill levels.

Currently, 55 percent of California jobs are in occupations requiring only on-the-job training, no post-secondary vocational education or academic education. Almost one-third of California jobs are in occupations requiring some level of academic degree. The majority of additional jobs created over the next 10 years will be in occupations requiring on-the-job training.

If wages are the benefits of work, unemployment is certainly its cost. Unemployment rates for large occupations ranged from 1.0 percent for elementary school teachers to 24.6 percent for farm workers. Unemployment rates are lower among occupations used in many industries (e.g., accountants, 2.7 percent) and among those for which demand has increased significantly (e.g., elementary school teachers, at 1.0 percent, needed to meet smaller class size goals). Unemployment rates are higher for occupations whose work is seasonal (e.g., farm workers at 24.6 percent) and those for which demand has fallen due to technological,

demographic or cyclical factors (e.g., electrical/electronic equipment assemblers at 17.1 percent).

Macroeconomists don't usually analyze occupational employment trends. Labor demand is a "derived demand," in that the number of workers needed is dependent on demand for the particular product or service they will produce. That makes industry employment of more immediate interest. Yet, as the information in this chapter demonstrates, occupational employment is an important factor in the health and character of California's economy and labor markets. With knowledge of the occupational mix, one can draw conclusions about skill requirements, wage levels and unemployment.



Chapter 6 REGIONAL CONDITIONS

There are 49 California areas for which core labor market statistics – including unemployment rates and payroll employment levels – are estimated monthly. These substate areas are composed of Metropolitan Statistical Areas (MSAs) and counties not in MSAs.¹ MSAs are single urbanized counties or groups of contiguous urbanized counties. Labor market statistics for individual MSAs and counties are posted on the LMID website at www.calmis.ca.gov.

As can be imagined, labor markets and economic linkages often extend beyond the boundaries of individual MSAs and counties to what can be termed as regional economies. Regional labor market conditions are discussed in this chapter using annual average employment data. Annual average and monthly employment data reveal similar labor market trends, although year-over comparisons of monthly employment data tend to show a more pronounced slowdown in employment growth across regions in 2001 than do annual averages.

NINE CALIFORNIA REGIONAL ECONOMIES

This report uses the nine California regions defined originally by the California Economic Strategy Panel (ESP) and shown in Figure 6-1. The regions have homogeneous and/or interdependent industry structures and an active exchange of labor, goods, and services among the constituent areas. Labor market conditions in the constituent areas of a regional economy may be widely different, but are a part of a regional system and therefore move together.

¹ Standards for defining Metropolitan Statistical Areas are set by the U.S. Office of Management and Budget (OMB). The OMB has adopted new standards that will alter the definitions of some California areas. These changes are expected to be announced in 2003.



Figure 6-1

The California Economic Strategy Panel identified nine distinct regional economies in California based on data collection conventions, physical geographic barriers, and commute patterns. These regions are used throughout this chapter to discuss regional labor market conditions.

UNEMPLOYMENT HAS PERSISTENT GEOGRAPHIC PATTERN

Unemployment rates vary widely across California regions. In 2001, the lowest regional rate was 3.9 percent in the Southern Border region and the highest was 11.9 percent in the San Joaquin Valley region. As the map in Figure 6-2 illustrates, there is a geographic pattern to the variation in unemployment rates. Generally, the largest urban regions along the coast tend to have the lowest unemployment rates. The Greater Sacramento region was the only non-coastal region to record an unemployment rate of 5.0 percent or less in 2001.

Unemployment rates tend to be lower in urban areas in part because their greater diversity of industries means job losses in one industry have less effect on the total employment. Further, population growth has long been greatest in urban areas, which is a stimulus to an active and expanding labor market. The seasonal pattern of industries in agricultural-dependent regions contributes to persistently higher unemployment rates in these areas. Finally, regions with a higher proportion of high unemployment rate populations, such as youth and Hispanics, tend to have higher unemployment rates.

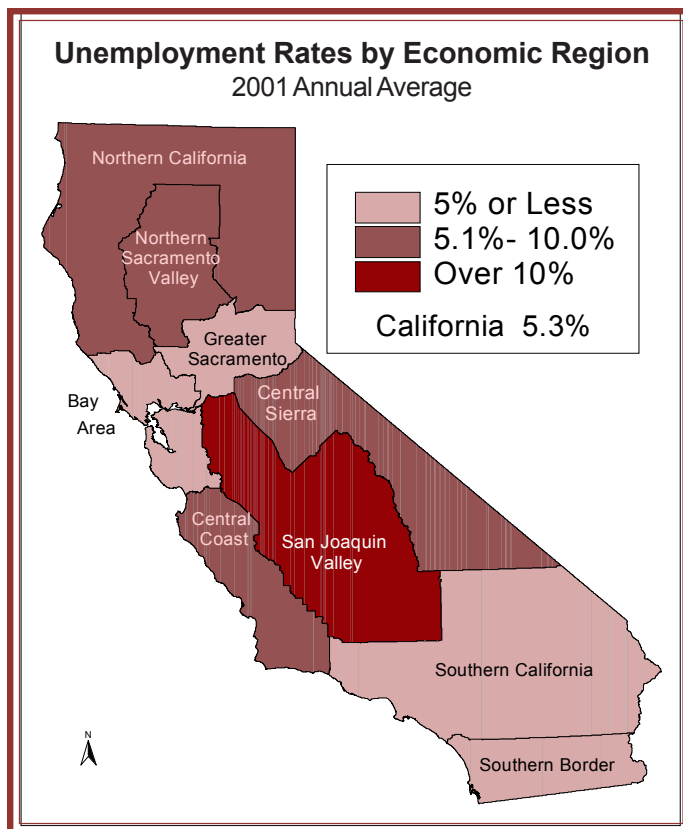


Figure 6-2

Greater Sacramento was the only non-coastal region with a rate of less than 5.0 percent in 2001. Unemployment rates tend to be lower in California's large urban regions along the coast, and higher in more rural and agriculture-dependent regions.

Because these factors are affected relatively little by swings in the business cycle, the coastal-urban pattern of low unemployment has persisted over time, in good economic times and bad. As evidenced in Figure 6-3, all regions saw unemployment rates decline from 1997 through 2000, but the relative rankings among regions did not change. However, the narrow industry concentration of the high technology slowdown penalized the Bay Area region to such a large extent that it relinquished its traditional rank as the region with the lowest rate to the Southern Border region in 2001. Even with this change, a coastal-urban area continued to have the lowest regional unemployment rate.

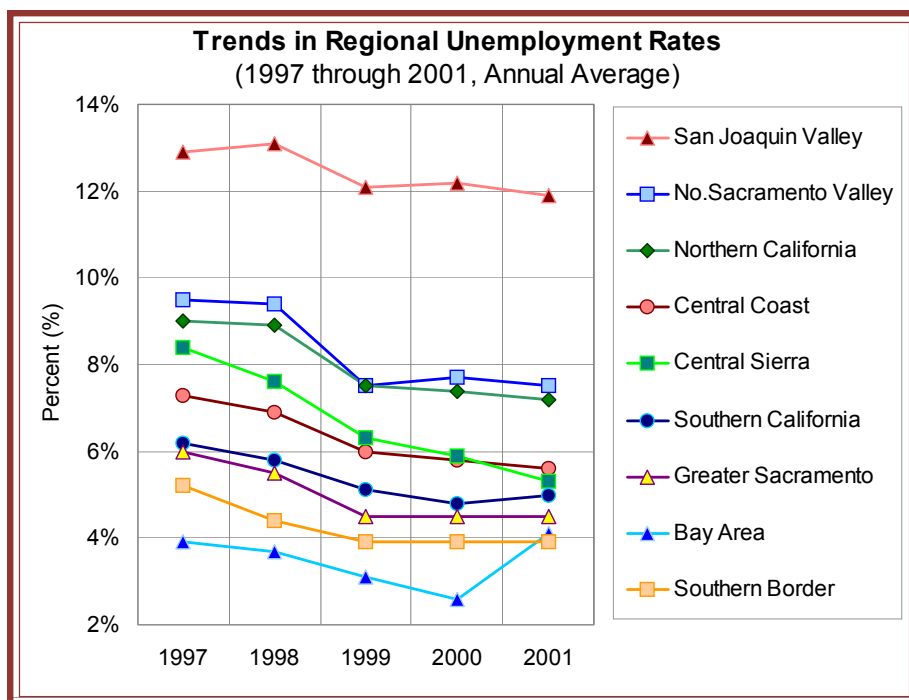


Figure 6-3

Unemployment rates fell across regions due to strong economic conditions from 1997 through 2000, but the rankings of regional rates did not change. With the Bay Area region bearing the brunt of the economic slowdown in 2001, the Southern Border region became the region with the lowest rate.

JOB GROWTH IS CONCENTRATED IN FIVE REGIONS

All of California's regional economies saw uninterrupted annual average job gains from 1997 through 2001 (Figure 6-4). The five most populous regions – Southern California, Bay Area, Southern Border, Greater Sacramento, and San Joaquin Valley – accounted for 95 percent of the total regional job growth from 1997 through 2001.

The economic slowdown has been concentrated in our two largest metropolitan regions, the Bay Area and Southern California regions. The Bay Area region has been particularly hard hit. Annual average job growth in the Bay Area region totaled only 500 jobs in 2001, or virtually zero percent. Over the previous four years, 1997 through 2000, its job growth averaged 120,000 jobs, or 3.6 percent, per year. Growth in the Southern California region fell to less than 100,000 jobs in 2001, after averaging nearly 180,000 jobs per year over the previous four years.

Growth in the State's three other most populous regions also slowed in 2001, but to a lesser degree. Annual average growth slowed from 3.5 percent in 2000 to 2.7 percent in 2001 in the Greater Sacramento region, from 3.3 percent to 2.3 percent in the Southern Border region, and from 2.7 percent to 0.7 percent in the San Joaquin Valley region. Despite this slower growth, California's five largest regions continued to contribute more than 90 percent of total regional growth in 2001.

The four remaining regions recorded small increases in payrolls, in both numbers and percentage. The Northern California region had the smallest numerical and percentage job gain over the five-year period, 1997 through 2001, adding fewer than 7,000 jobs, an increase of just 5 percent.

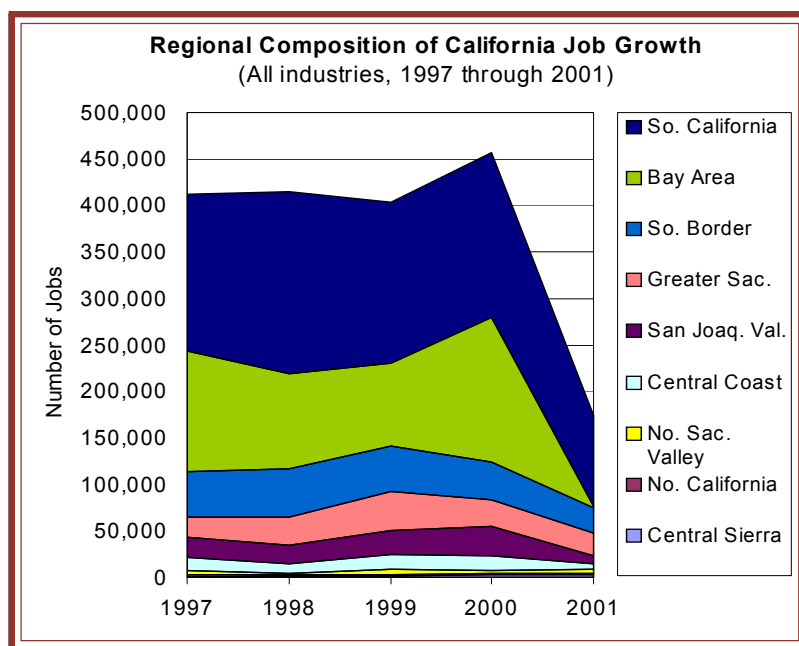


Figure 6-4

California's five most populous regions accounted for 95 percent of regional job growth from 1997 through 2001. However, the Bay Area and Southern California regions had the greatest slowdown in job growth during the 2001 economic downturn.

The general economic slowdown affected some small regions even though they lack significant employment in high technology. The Central Coast region slowed the most among the small areas; its job growth fell from 3.3 percent in 2000 to 1.3 percent in 2001. The rate of annual job growth also slowed in the Northern Sacramento Valley region. However, the pace of job growth increased in the Central Sierra region and held steady in the Northern California region in 2001. A small change in employment can have a large economic impact in a less populated region because of the small size of the local labor market. Moreover, the seasonal nature of employment in these regions often makes it difficult to determine whether a change in job growth is due to general economic conditions or to some atypical change in seasonal employment.

SLOWER JOB GROWTH IN SOUTHERN CALIFORNIA

Southern California is the State's largest regional economy, with 6.9 million total jobs in 2001, just under half of all jobs statewide. The region is comprised of four MSAs: Los Angeles-Long Beach, Orange County, Riverside-San Bernardino, and Ventura MSA (see Figure 6-5).

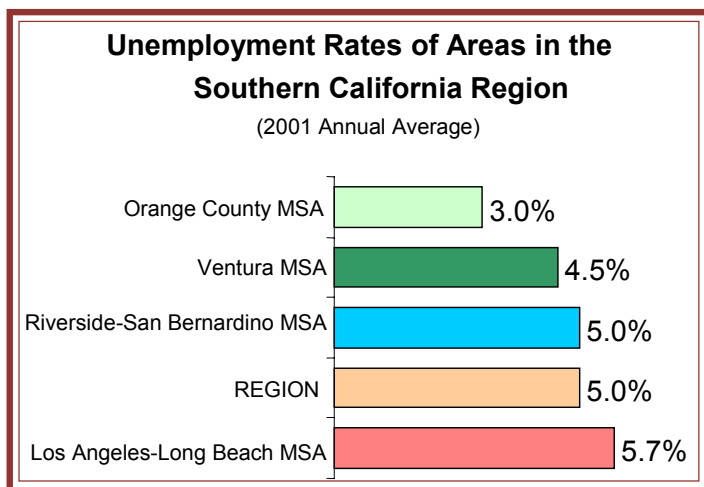
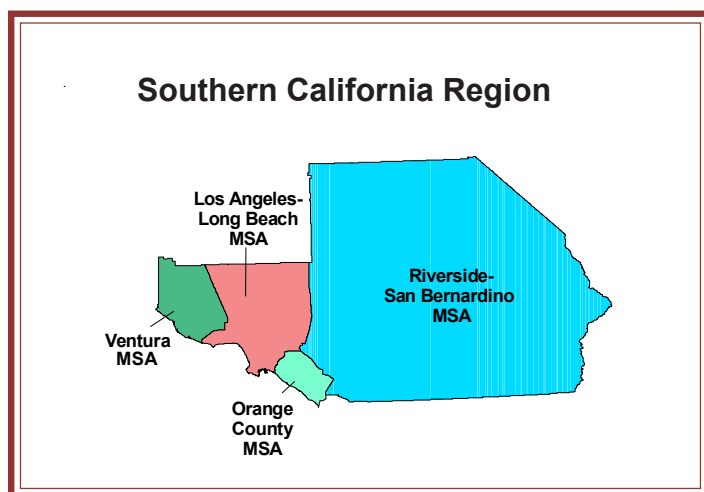


Figure 6-5

Unemployment rates in the region ranged from 3.0 percent in Orange County MSA to 5.7 percent in Los Angeles-Long Beach MSA in 2001. The fast-growing Riverside-San Bernardino MSA was the only area in the region where the rate fell.

Southern California's regional unemployment rate rose from 4.8 percent in 2000 to 5.0 percent in 2001, ending a string of eight consecutive years of rate decreases. Although the Orange County MSA posted the region's largest unemployment rate increase in 2001 (0.5 percentage point), it continued to have the region's lowest rate at 3.0 percent. The Los Angeles-Long Beach MSA had the region's highest unemployment rate at 5.7 percent in 2001, an increase of 0.3 percentage point from 2000. In contrast, the Riverside-San Bernardino MSA's rate fell slightly in 2001 to 5.0 percent, and the Ventura MSA rate was unchanged at 4.5 percent.

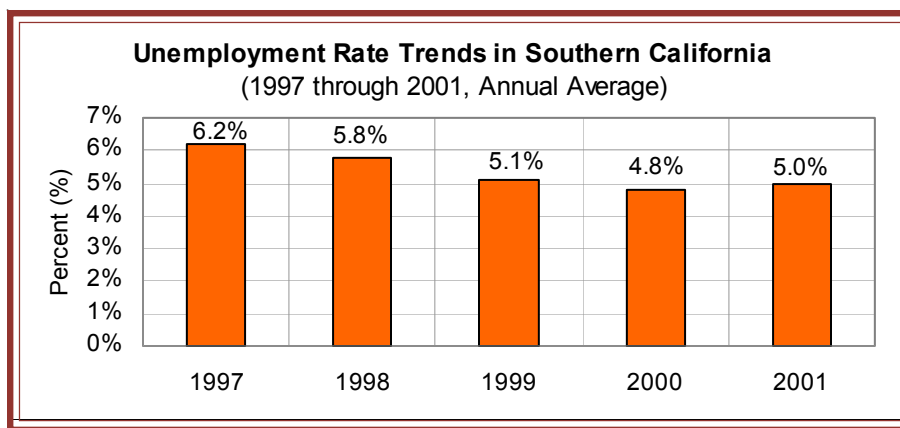


Figure 6-6

The Southern California region's unemployment rate fell 1.4 percentage points from 1997 to 2000, but rose in 2001.

The Southern California regional economy added over 800,000 jobs from 1997 through 2001, growing at a pace of 2.7 percent per year. The Los Angeles-Long Beach MSA, which accounts for three-fifths of the region's jobs, added the largest number of jobs over the period, but grew at a slower pace than other areas in the region. The Riverside-San Bernardino MSA – more commonly known as the Inland Empire – had the region's fastest five-year job growth (5.4 percent per year), followed by the Orange County MSA (3.9 percent per year) and the Ventura MSA (3.7 percent per year). In contrast, payrolls in the Los Angeles-Long Beach MSA grew at a pace of only 1.6 percent per year.

The pace of regional job growth slowed considerably in 2001. The region's 1.4 percent job growth in 2001 was just over half of the five-year pace, and the region's slowest growth rate since 1994. However, job growth in the Riverside-San Bernardino MSA continued at a brisk 3.9 percent pace in 2001 despite the weak economy. In contrast, job growth in the Los Angeles-Long Beach MSA slowed to 0.5 percent in 2001.

The region's industry growth pattern mirrored the State's from 1997 through 2001. The industry groups that added the most jobs were local government (119,000 jobs), business services (111,000 jobs), special trade construction (79,000 jobs) and eating and drinking places (61,000 jobs). In contrast, three industries in the region lost more than 10,000 jobs over the period, including the federal government, transportation equipment, and apparel and other textiles. The losses in federal government and transportation equipment reflect the shrinking role of defense-related activities in the regional economy since the beginning of the last decade.

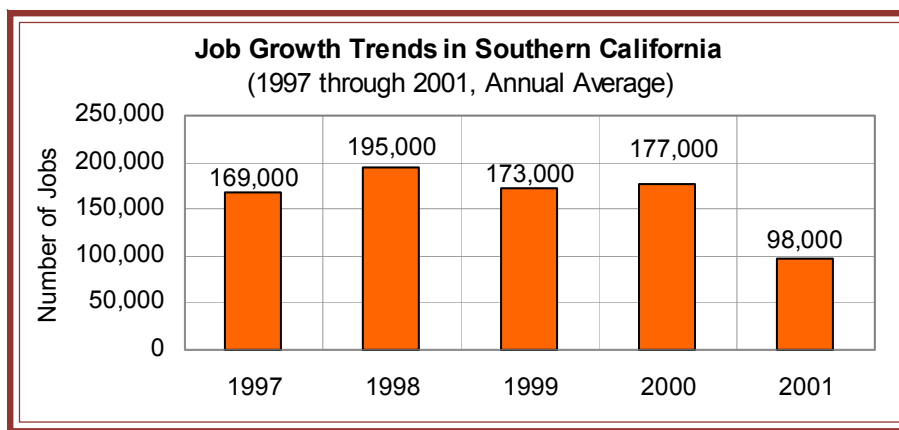


Figure 6-7

The Southern California region's job growth in 2001 was well below the pace of the previous four years.

Although every sector of the regional economy except for mining and finance, insurance, and real estate added fewer jobs in 2001 than in 2000, the slowing of job growth was most concentrated in high technology industries. Overall, the regional economy added almost 80,000 fewer jobs in 2001 than in 2000 (see Figure 6-7). However, business services, which has a significant high technology orientation, created 53,000 fewer jobs in 2001 than in 2000, while electronics manufacturing created 4,000 fewer jobs. Although the slump in the high technology sector dampened overall growth in the Southern California region, its effects on the regional economy were less pronounced than in the Bay Area region, which has a much higher concentration of high technology industries.

Employment growth has also slowed in the region's entertainment industries. The amusement and motion picture industry groups combined added 25,000 jobs from 1997 through 2000. However, in 2001, these industry groups combined added only 200 jobs. In the Los Angeles-Long Beach MSA, the only area in the region for which the motion picture industry is broken out separately, the motion picture industry lost 8,000 jobs in the 2000-2001 period. The region's motion picture industry continues to feel the effects of runaway movie production to other countries – many of which subsidize their motion picture industries – and the introduction of less location-specific digitized movie production techniques.

The Southern California region has fared considerably better, overall, in the current economic downturn than it did during the 1991-93 recession when the region bore the brunt of defense and aerospace industry restructuring. Whereas the Southern California region added nearly 100,000 jobs in 2001, the region averaged losses of over 156,000 jobs per year during the 1990-1993 recession.

Prospects. Although Southern California's job growth slowed considerably in 2001 from the rapid pace of previous years, the diverse industrial makeup of the regional economy shielded the region from bearing the full effects of the current economic downturn. As is typical

of any downturn in the business cycle, the region's prospects for job growth over the next two to three years will depend on the timing and the strength of recovery in the national economy. Whereas a strong recovery would boost employment in the region's high technology, tourism, and shipping and transportation industries, a feeble recovery would continue to dampen employment. Recovery in the global economy would also boost employment in the region. Southern California is a major hub for international shipping and transportation, particularly with Asia, and international trade plays a key role in the regional economy.

Segments of the region's aerospace and defense industries, which have been in decline for several years, stand to benefit from increased federal defense spending in the wake of the September 11th terrorist attacks. However, the recent job losses in motion pictures and apparel and other textile manufacturing may signal some restructuring within these industries.

The Southern California region's population is expected to grow at an annual pace of 1.5 percent per year through 2005. This is a slightly slower pace than the 1.7 percent annual growth expected statewide. The populations of the Los Angeles-Long Beach, Orange County and Ventura MSAs are expected to grow at a slower pace than the region as a whole. In contrast, rapid population growth is expected to continue in the Inland Empire, where Riverside and San Bernardino Counties are expected to grow at 3.6 percent and 2.7 percent a year, respectively, through 2005. As a result, the recent pattern of more rapid economic and employment growth in the Inland Empire than elsewhere in the region will likely continue into the foreseeable future.

BAY AREA FEELS BRUNT OF SLOWDOWN

The ten-county Bay Area region is comprised of the Oakland MSA, San Francisco MSA, San Jose MSA, Santa Cruz-Watsonville MSA, Santa Rosa MSA, and Vallejo-Fairfield-Napa MSA (see Figure 6-8). The Bay Area region is the second largest economic region in the State.

The Bay Area region has traditionally recorded the lowest unemployment rate in the State. In 2000, the region's 2.6 percent rate was more than one percentage point lower than the next lowest regional rate – 3.9 percent in the Southern Border region. However, the Bay Area region's unemployment rate shot up one and a half percentage points to 4.1 percent in 2001 – its highest rate in 5 years – in the face of mounting job losses in the region's high technology industries and dot-com establishments (see Figure 6-9). This was the largest rate increase among California's nine regions, and put the Bay Area region's rate slightly above the rate in the Southern Border region. The Bay Area region's unemployment rate was 6 percent or higher in each of the first three months of 2002, and exceeded the Southern California

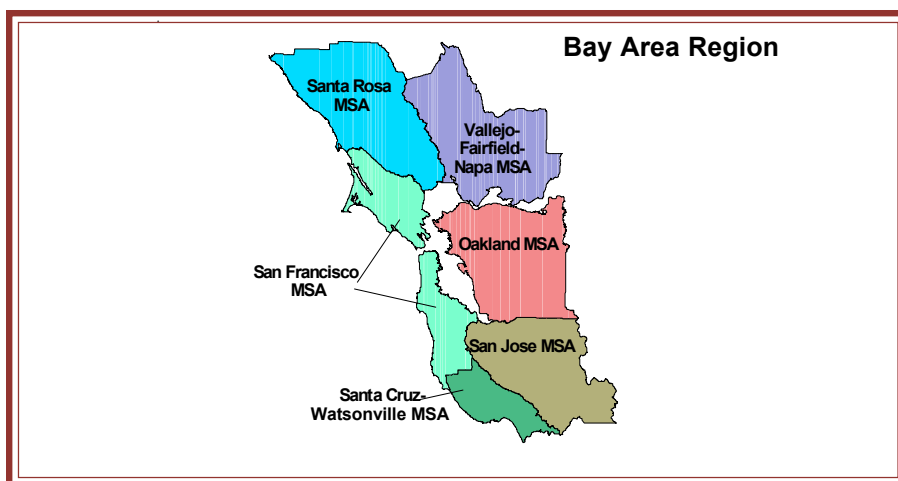


Figure 6-8

Unemployment rates in 2001 among the Bay Area metropolitan areas ranged from 2.9 percent in Santa Rosa MSA to 6.1 percent in Santa Cruz-Watsonville MSA, the most rural of Bay Area MSAs.

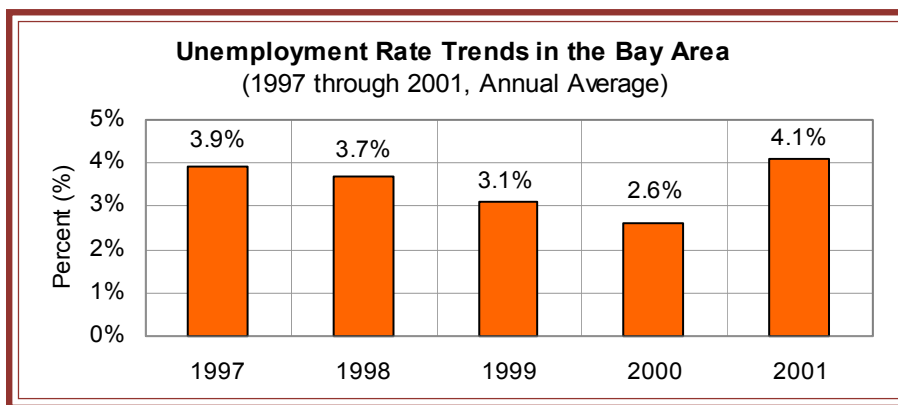
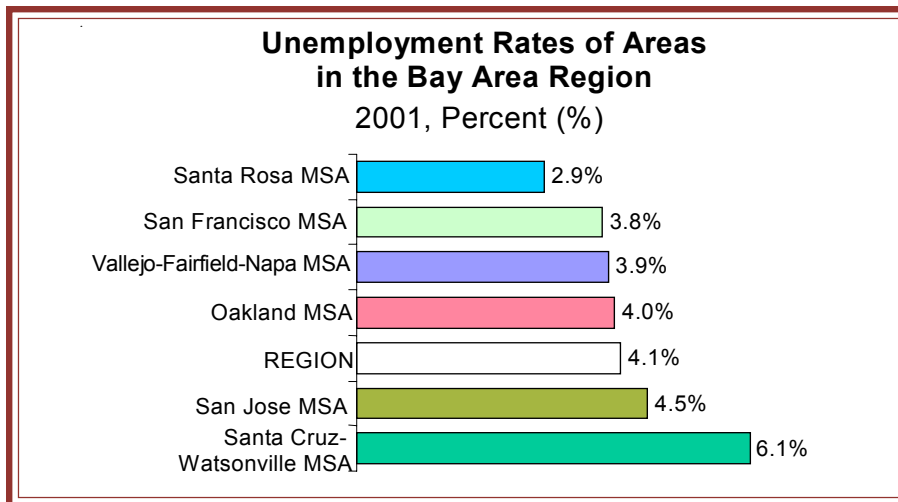


Figure 6-9

The Bay Area region lost its traditional position as the California region with the lowest unemployment rate in 2001 as the high technology slowdown pushed its rate up 1.5 percentage points.

region's unemployment rate in each month. In comparison, the Bay Area region's unemployment rate was at least 1.5 percentage points lower than the Southern California region's in each of the first three months of 2000.

The Bay Area region had virtually no growth in 2001, gaining only 500 jobs (see Figure 6-10). This was the region's weakest job growth since 1992. In stark contrast, the Bay

Area region gained 155,000 jobs in 2000, and the region's 4.4 percent growth rate was its most rapid growth since 1984. The slowdown in 2001 was concentrated in the San Jose MSA – the heart of Silicon Valley – and San Francisco MSA, which lost 14,000 and 11,000 jobs, respectively. Each of the region's other four areas had annual job growth of 1.4 percent or more in 2001, led by Vallejo-Fairfield-Napa MSA, which grew at more than 3 percent.

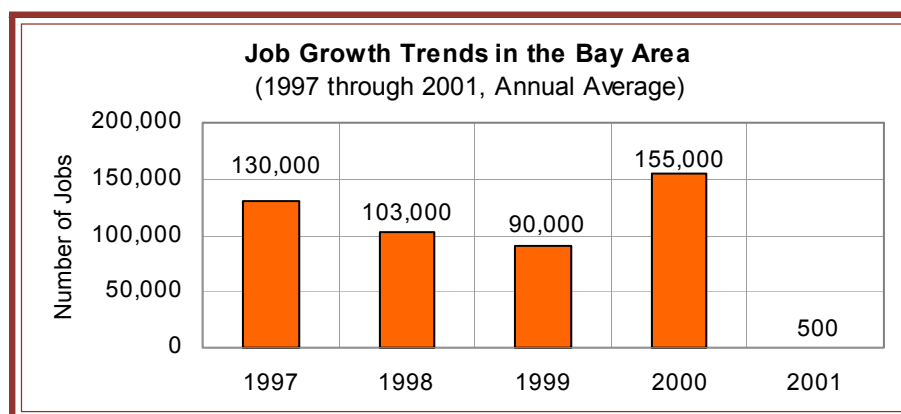


Figure 6-10

As the center of California's high technology sector, the Bay Area region enjoyed strong job growth during the recent high technology boom. Regional job growth all but disappeared with the economic downturn of 2001.

As in other regions, business services created the most Bay Area region jobs from 1997 through 2001. Propelled by growth in software programming and temporary workers in high technology industries, business services accounted for one-quarter of the 479,000 jobs added in the region, a substantially greater share of overall job growth than it contributed in other regions. Similarly, business services played a disproportionately large role in the Bay Area region slowdown. Regional employment in business services decreased 24,000 jobs in 2001, after having increased 63,000 jobs in 2000. This net change of 87,000 fewer business services jobs accounted for over 55 percent of the region's 155,000 negative change in jobs from 2000 to 2001.

High technology manufacturing in the Bay Area region was also hard hit by the slowdown. Electronic equipment and industrial machinery together added 20,000 jobs from 1997 through 2001, accounting for 4 percent of region-wide job growth, a share of overall growth twice the statewide average. However, the Bay Area region lost 5,000 jobs in these industries in 2001, accounting for half of the losses in these industries statewide.

The Bay Area region is a major international hub for travel and tourism with 46,000 workers in hotels and lodging places and 44,000 workers in air transportation in 2001. These industries were directly affected by airline layoffs and reduced travel in the wake of the September 11th terrorist attacks and the slowdown in business travel that accompanied the bursting of the high technology bubble. Monthly employment data show a loss of 7,500 jobs in air transportation in 2001. In comparison, the region added over 1,000 air transportation jobs in

2000. The region lost nearly 5,000 air transportation jobs in October and November 2001, the months immediately following the terrorist attacks. The region's hotel and lodging places lost 3,200 hotel and lodging jobs in 2001. This compares to a gain of 3,200 jobs in 2000. The majority of these travel-related job losses occurred in the San Francisco MSA, where the tourism industry is more heavily reliant on international and out-of-state travelers who arrive by air than are other destinations in California which cater to in-state travelers to a greater degree.

Prospects. The Bay Area region's short and medium term employment prospects are linked to the fortunes of its high technology industries. Just as the region benefited from the high technology and dot-com boom of the late 1990s to a greater degree than California's other regions, it has disproportionately suffered the effects of the current high technology bust. However, as painful as the current economic slowdown has been, it could have been worse. The region's high technology industries increasingly specialize in design, research and development functions, which are more immune to cyclical downturns than the manufacture of goods and products and provision of services. This specialization positions the Bay Area region's economy well for continued growth after high technology markets recover, although few economists expect a return of the rapid growth of the recent high technology boom.

However, a rebound within the high technology sector is expected to lag the recovery in the overall economy since it is dependent on a turnaround in business investment in computers and software. Similarly, the Bay Area region's hard-hit tourism industry is not expected to rebound until business and leisure travel by air recover fully. Such a rebound is also expected to lag behind recovery in the overall economy. Although the Bay Area region's longer term employment prospects remain bright, over the shorter term, the effects of the current recession are expected to remain more severe and linger longer than in other regions.

The Bay Area region's population is expected to grow at a rate of 1.5 percent per year from 2000 through 2005. This is a slower pace of growth than is expected statewide. Although the current recession has eased pressures on real estate markets somewhat, the region's extraordinarily high cost of housing and limited land availability threaten to constrain future economic growth.

SOUTHERN BORDER MOVES INTO LOWEST-RATE POSITION

The Southern Border region is comprised of just two areas: the San Diego MSA and Imperial County (see Figure 6-11). The areas are combined because both are located along the border with Mexico, and trade and immigration from that country strongly influence their economies. However, economic conditions in the two areas are strikingly different. San Diego is a large, urban, economically diversified county. The labor force in Imperial County is 1/24th the size of San Diego's and is largely employed in seasonal agricultural industries.

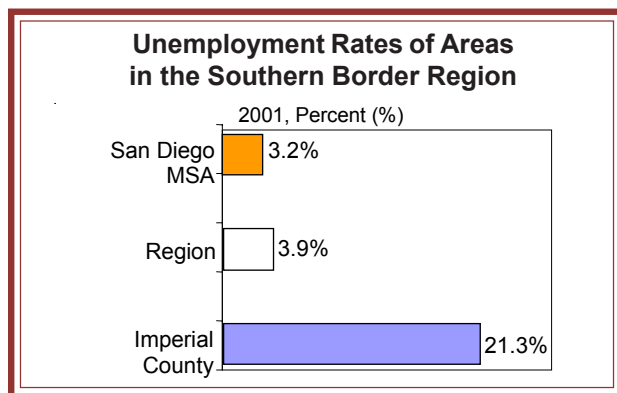
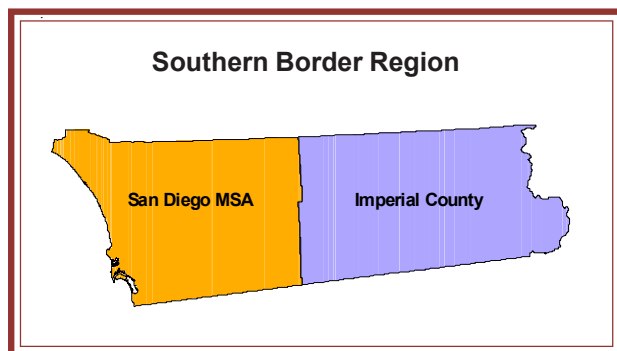


Figure 6-11

The unemployment rate in the Southern Border region was 3.9 percent in 2001. The regional rate is a weighted average of 3.2 percent in the San Diego MSA economy and 21.3 percent in the Imperial County economy. The rate in Imperial County is consistently one of the highest among all 58 California counties.

The Southern Border region's unemployment rate fell from 5.2 percent in 1997 to 3.9 percent in 1999, where it remained through 2001 (see Figure 6-12). The region's 3.9 percent rate in 2001 was lower than the Bay Area region's and the lowest rate among all regions. Whereas the San Diego MSA rate edged up slightly to 3.2 percent in 2001, Imperial County's rate fell 5 percentage points to 21.3 percent.

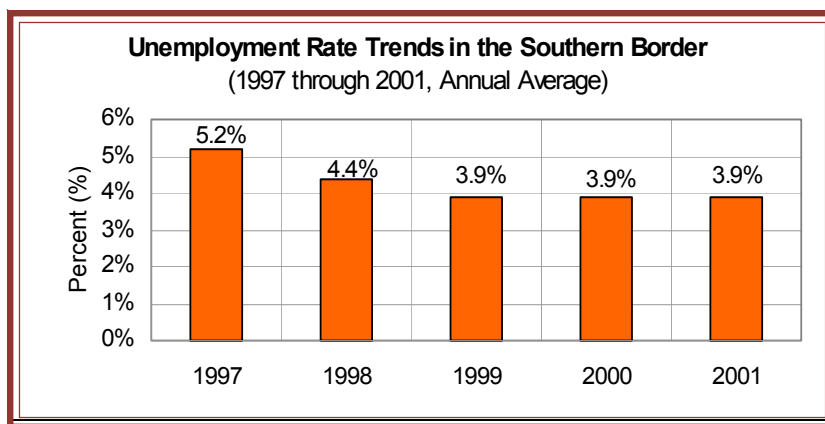


Figure 6-12

The Southern Border region's unemployment rate fell 1.3 percentage points from 1997 through 1999, and continued to hold steady at 3.9 percent in 2000 and 2001. In 2001, the Southern Border region's unemployment rate was the lowest of California's nine regions.

The Southern Border region added 29,000 jobs in 2001, down from an increase of 41,000 in 2000, and from the peak growth of 52,000 jobs in 1998 (see Figure 6-13). However, the region's 2.3 percent rate of job growth in 2001 was third highest among all regions, trailing only the Central Sierra and Greater Sacramento regions, and second highest among the State's five large regions.

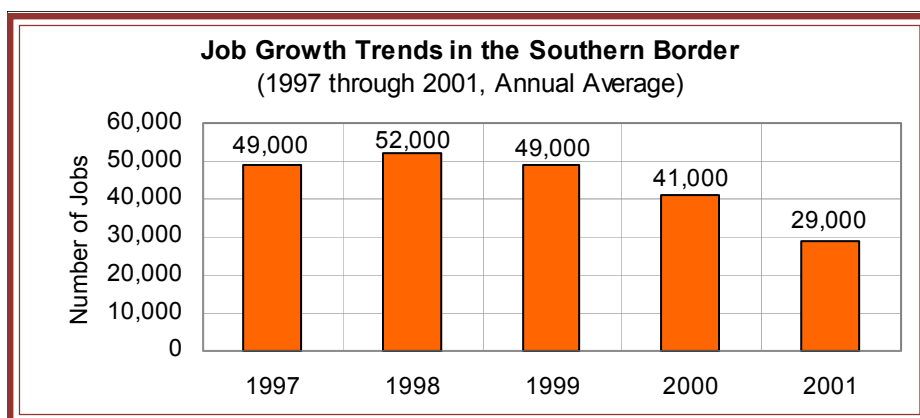


Figure 6-13

Job growth in the Southern Border region slowed in 2001 in comparison to the previous four years, but remained stronger than in most other regions.

Employment increases by major industry sector in the Southern Border region mirrored the statewide pattern. The top five growth industries from 1997 through 2001 were business services, local government, special trade construction, engineering and management and eating and drinking establishments. Each of these industries added between 10,000 and 27,000 jobs over the five years.

The Southern Border's regional economy is distinguished by its extraordinary industrial diversity. Agriculture continues to play an important role in the regional economy, especially in Imperial County. The region's manufacturing sector encompasses biomedical products, biotechnology and pharmaceuticals, computer and electronics, defense and transportation, recreational goods, and environmental technologies. Important service-producing activities include business services, computer and software services, medical services, financial

services, and communications. The region is also an important tourism and convention destination, and continues to host a large military presence.

Prospects. Although the pace of job growth has slowed in 2001, the dynamic Southern Border region's economy largely avoided the current recession. As in the Southern California region, the region weaned itself from an over dependence on defense-related industries during the painful restructuring of the early 1990s, and emerged with a diverse and vibrant economy. As such, employment growth in the region is poised to accelerate once recovery in the national and international economies takes hold. Economic recovery in bordering Mexico, in particular, would provide a boost to employment in the region.

The region's population is expected to grow at a rate of 2.2 percent a year from 2000 through 2005. This is a much higher growth rate than is expected for the State as a whole. The region's population growth will help stimulate job growth in the region, and particularly, within local education and in construction, services, and retail industries.

GREATER SACRAMENTO LEADS REGIONS IN PACE OF CONSTRUCTION AND MANUFACTURING GROWTH

The Greater Sacramento region is composed of four areas. Eighty percent of the region's labor force reside in the Sacramento MSA. The other three areas – Yolo MSA, Yuba City MSA and Nevada County – are much less populated and much of their recent population growth has been concentrated in the vicinity of the Sacramento MSA (see Figure 6-14).

The regional average unemployment rate dropped from 6.0 percent in 1997 to 4.5 percent in 1999, and remained at that level through 2001. The unemployment rate in the Yuba City MSA was 12.1 percent in 2001, significantly higher than the regional rate. The unemployment rates of Nevada County, the Sacramento MSA and the Yolo MSA were each less than the overall regional rate.

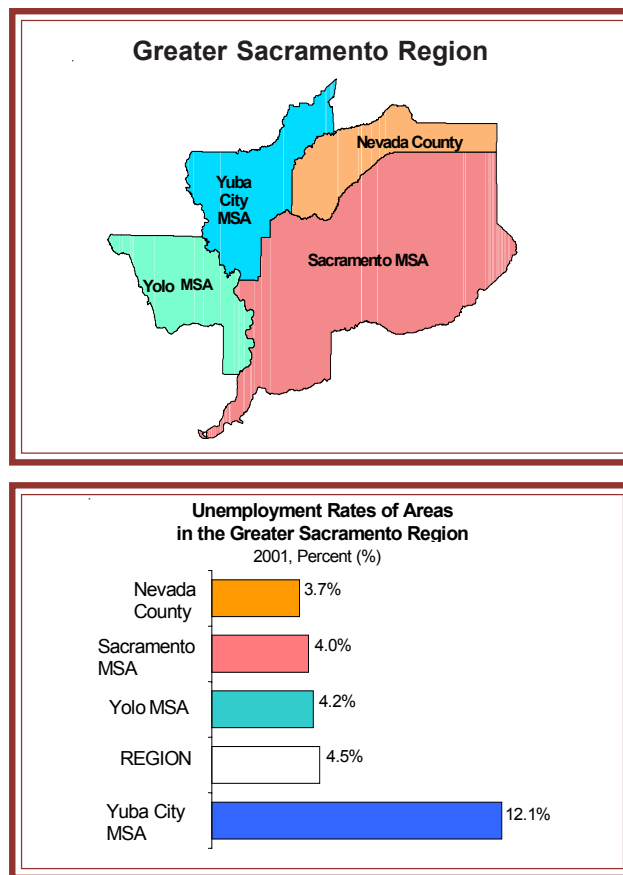


Figure 6-14

2001 unemployment rates in the Greater Sacramento region ranged from 3.7 percent in Nevada County to 12.1 percent in Yuba City MSA, the most agricultural-dependent area in the region.

Three sectors – services, government, and trade – accounted for three-quarters of the region's jobs in 2001. As the center of state government in California, government employment accounts for a higher share of total jobs in the Greater Sacramento region than in any of the State's other large regions.

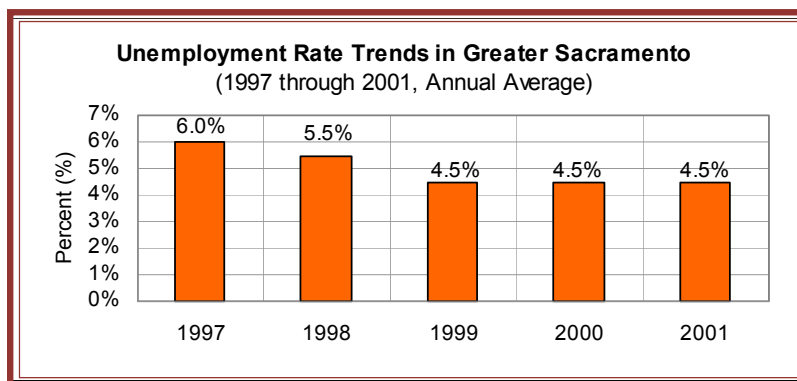


Figure 6-15

The Greater Sacramento region's unemployment rate fell 1.5 percentage points from 1997 to 1999, and held steady at 4.5 percent through 2001.

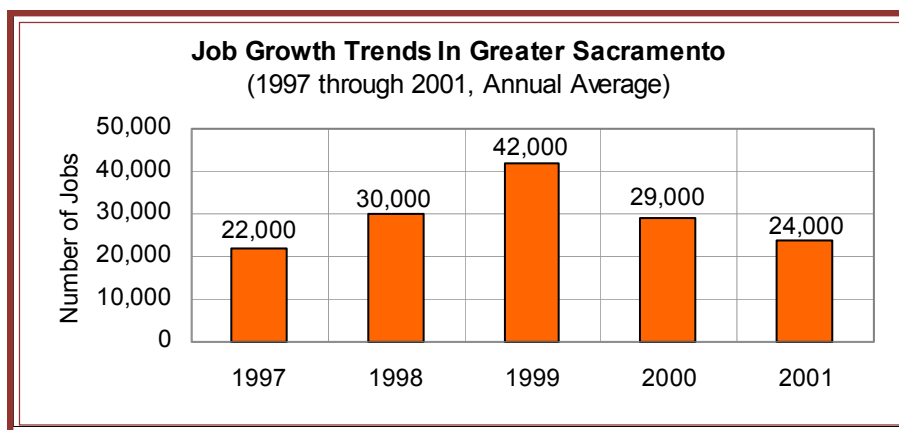


Figure 6-16

Although the pace of the Greater Sacramento region's job growth has slowed since 1999, the region had the second fastest rate of growth among regions in 2001, and the fastest rate of growth of California's five most populous regions.

The region added 147,000 jobs from 1997 through 2001, growing at an average pace of 3.9 percent per year. Regional job growth peaked at 42,000 jobs, or 5.2 percent, in 1999 and the pace of growth slowed in 2000 and 2001 (see Figure 6-16). Services added the greatest number of jobs over the five-year period and grew at a faster pace than the statewide rate. Business services accounted for over one-third of the increase in services jobs. Government added the second largest number of jobs over the five-year period and also grew at a faster pace than the statewide rate. Whereas local and state government added jobs, federal government employment fell during the five years due to local military base closures.

The region's ability to attract high technology-related businesses was an engine of manufacturing growth from 1997 through 2001. The Greater Sacramento region's manufacturing payrolls increased 3 percent over the five years. This was the fastest pace among regions and well above the State's 1 percent increase over the five years. A strong economy and affordable cost of living spurred construction employment to grow an average 12 percent per year over the last five years, again the best among regions, and better than the 9 percent statewide growth rate.

The Greater Sacramento region added 24,000 jobs in 2001, as continued growth in state and local government employment helped insulate the region from the effects of the high technology slowdown. The region's 2.7 percent rate of job growth was second highest among all regions, and the highest among the State's five large regions.

Prospects. Although Greater Sacramento region escaped the initial effects of the economic recession relatively unscathed, the effects of the recession are expected to deepen in the region in 2002. Indications were that the continuing slump in the high technology sector would snuff out much of the growth in region's expanding high technology manufacturing industries. More importantly, state government employment is expected to fall in the next two to three years as the State grapples with budget deficits related to the reduced revenues from

stock options and capital gains associated with the fall in high technology stock values. The State announced a hiring freeze in October 2001.

However, the longer term prospects for employment in the region remain bright. The region's population is expected to grow at a pace of 2.4 percent a year from 2000 through 2005. This expected rate of growth is well above the statewide average, and the second fastest of the State's five large regions. Rapid population growth will stimulate job growth in the region. In addition, the region's close proximity to the Bay Area and its comparatively affordable housing prices and availability of land for development should continue to enable the region to share in and absorb some of the growth expected in the Bay Area after the high technology sector recovers.

SAN JOAQUIN VALLEY HOLDS STEADY IN THE SLOWDOWN

The San Joaquin Valley region is defined by physical geography – a wide, 300-mile long valley bounded by the Coastal Range and Sierra Nevada Mountains, and ranging from the Tehachapis in the South to the midpoint of the Great Valley below the Sacramento MSA. It is comprised, from north to south, of the Stockton-Lodi MSA, Modesto MSA, Merced MSA, Fresno MSA, Kings County, Visalia-Tulare-Porterville MSA, and Bakersfield MSA (see Figure 6-17).

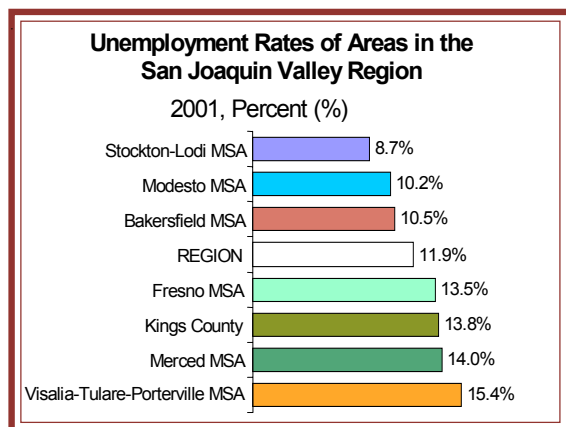
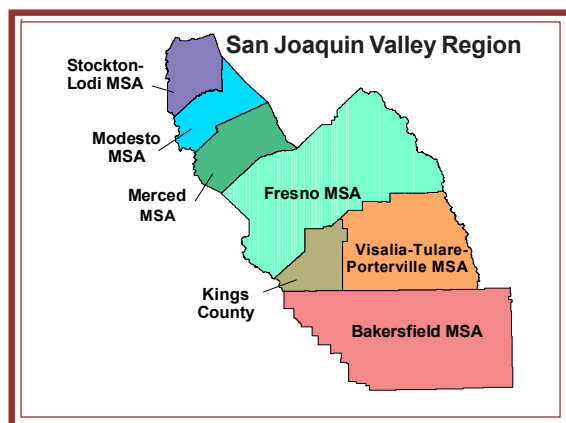


Figure 6-17

The Stockton-Lodi MSA was the only area in the region to record an unemployment rate below 10 percent in 2001. Even Fresno MSA, with the tenth largest economy among California areas, recorded an unemployment rate of 13.5 percent, a significantly higher rate than in other large areas.

The San Joaquin Valley region's unemployment rate was 11.9 percent in 2001, more than twice the comparable statewide rate, but down from 12.2 percent in 2000 (see Figure 6-18). The regional unemployment rate declined by only 0.1 percentage point from 1997 through 2001. This was largely attributable to slow job growth in key regional industries, such as agriculture and food processing, that offset growth in other segments of the economy. The region's relatively slow labor force growth – just 6 percent over five years compared to 12 percent statewide – helped to hold regional unemployment rates down.

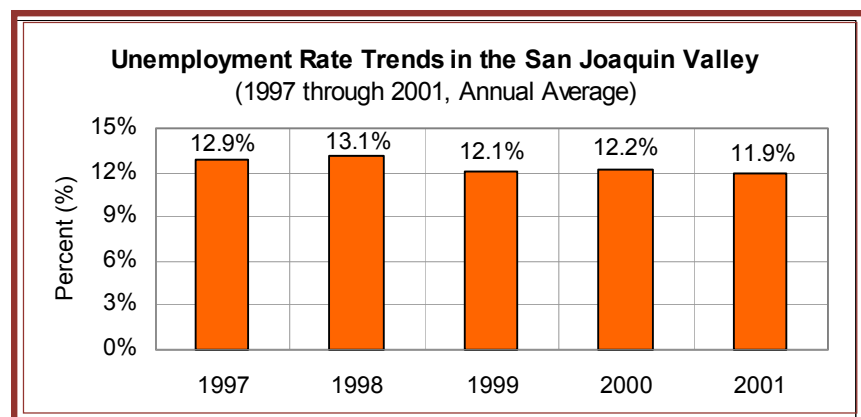


Figure 6-18

The San Joaquin Valley region traditionally has the highest unemployment rate of California's nine regions. Its 11.9 percent rate in 2001 was more than twice the statewide rate.

The San Joaquin Valley region added 106,000 jobs from 1997 through 2001, an increase of 9 percent or a growth rate of less than 2.0 percent per year. The fastest growing areas were Stockton-Lodi MSA and Modesto MSA, which are located in close proximity to the Bay Area and absorbed some of that region's growth. Employment in the Fresno MSA and Kings County grew at the slowest rate.

The San Joaquin Valley region added just 9,000 jobs, an increase of 0.7 percent, across all industries in 2001 (see Figure 6-19). This was the fewest number of new jobs since 1992, and a decrease from the 32,000 jobs the region added in 2000. The Bay Area region was the only region to grow at a slower pace than the San Joaquin Valley region in 2001.

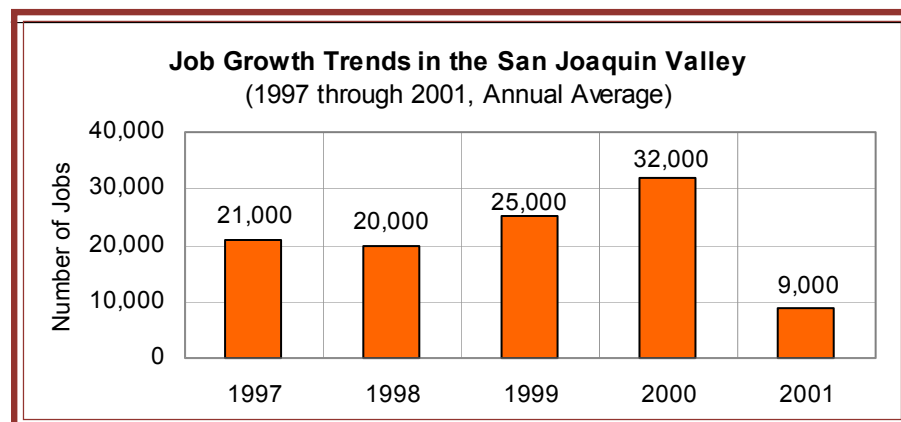


Figure 6-19

The San Joaquin Valley region had the slowest rate of job growth among California's five largest regions, and second slowest growth among all regions over the last five years. The region added fewer jobs in 2001 than in any year since 1992.

The farm sector made up 15 percent of total payroll employment in the San Joaquin Valley region in 2001, making it the fourth largest sector in terms of employment despite the loss of 25,000 jobs from 1997 through 2001, a decrease of over 12 percent. The largest losses were in Kings County and the Fresno MSA, where farm employment declined by 35 percent and 23 percent, respectively. Nearly three-quarters of the total farm job losses in these counties occurred in 2001. The food processing industry added 1,700 jobs from 1997 through 2001, an increase of just over 3 percent, or only about one-third the rate of overall regional growth. However, food processing grew at a faster rate than the regional economy as a whole in 2001.

Construction, services, and government grew at a faster rate than the overall regional economy from 1997 through 2001. However, government was the only sector to grow at a faster pace in San Joaquin Valley than in the State over the five-year period. Local government accounted for 85 percent of the nearly 34,000 additional government jobs created in the region, with local education accounting for a little over half of new local government jobs.

Construction was a bright spot in the San Joaquin Valley region's economy in 2001, increasing by 5,000 jobs, or 10 percent. In comparison, construction jobs increased 6 percent statewide. The San Joaquin Valley region was little affected by the high technology slowdown or slump in travel and tourism that followed the September 11th terrorist attacks.

Prospects. The rapid economic growth related to the high technology boom largely bypassed the San Joaquin Valley region. The regional unemployment rate remains more than twice the statewide average, and job growth in the region continues to lag behind California's other regions.

The region's population growth is expected to accelerate over the next decade. From 2000 through 2005, the region's population is expected to grow at a rapid 2.5 percent a year pace. This population growth will spur job growth in construction and local education, as well as industry groups in the services and trade sectors. However, there is little reason to expect that unemployment rates in the region will fall closer to the statewide rate since significantly higher job growth than has occurred in recent years will be necessary just to keep pace with the growing population. Although diversifying, the overall regional economy will continue to be highly dependent on agriculture and agricultural-related industries for the foreseeable future. The employment growth that does occur will likely be uneven. The Stockton-Lodi and the Modesto MSAs will likely have the fastest rate of growth as these areas are drawn deeper into the Bay Area region's economic sphere of influence. At the other end of the Valley, the Bakersfield MSA is increasingly being pulled into the Southern California region's economic sphere of influence.

SUMMARY

Although regional unemployment rates in California vary widely, ranging from a low of 3.9 percent in the Southern Border region to a high of 11.9 percent in the San Joaquin Valley region in 2001, they follow a persistent geographical pattern. The largest urban regions along the coast tend to have the lowest unemployment rates because their greater diversity of industries means job losses in one industry have less effect on the total employment. Moreover, their population growth responds to and supports an active and expanding labor market. Higher unemployment rates tend to persist in agriculturally dependent regions where hiring patterns are highly seasonal and in regions with a higher proportion of high unemployment rate populations, such as youth and Hispanics.

Each of California's nine regional economies saw uninterrupted annual average job gains from 1997 to 2001. The five most populous regions – Southern California, Bay Area, Southern Border, Greater Sacramento, and San Joaquin Valley – accounted for 95 percent of the total regional job growth from 1997 through 2001.

Job growth slowed significantly in most regions in 2001. The Bay Area region, which rode the crest of the high technology boom and "Internet Rush" of the late 1990s and 2000, was particularly hard hit by the business downturn given its high concentration of high technology and tourism-related industries. Although job growth also slowed markedly in the Southern California region in 2001, this downturn has been mild in comparison to the 1991-1993 recession when the region bore the brunt of defense and aerospace industry restructuring. The Southern Border and Greater Sacramento regions had among the highest regional job growth rates in 2001, although their pace of growth was down from preceding years. Job growth in the San Joaquin Valley region, which is more dependent on agricultural industries than other regions, has tended to lag behind California's other large regions.

GLOSSARY

BLS Training Level Definitions. Occupational training and education classifications were developed by the Bureau of Labor Statistics (BLS) to distinguish between occupations with comparable educational requirements but different skill levels:

- **First professional degree.** Occupations that require at least two years of full-time academic study beyond a bachelor's degree (for example, law, medicine, dentistry and clergy).
- **Doctoral degree.** Occupations that require at least three years of full-time academic study beyond a bachelor's degree culminating in a doctoral degree.
- **Master's degree.** Occupations that require the completion of a master's degree program which is usually one to two years beyond a bachelor's degree.
- **Bachelor's or higher and some work experience.** Occupations that generally require work experience in an occupation requiring a bachelor's or higher degree. Most occupations in this category are managerial occupations that require work experience in a related non-managerial occupation.
- **Bachelor's degree.** Occupations that require the completion of at least 4 but not more than 5 years of full-time academic study beyond high school resulting in a Bachelor's degree.
- **Associate degree.** Occupations that require the completion of at least 2 years of full-time academic study beyond high school.
- **Post-secondary vocational education.** Occupations that require completion of vocational school training.
- **Work experience.** Occupations that require skills obtained through work experience in a related occupation.
- **Long-term on-the-job training.** Occupations that require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills needed for average job performance.
- **Moderate-term on-the-job training.** Occupations in which workers can develop average job performance after 1 to 12 months of combined on-the-job experience and informal training.
- **Short-term on-the-job training.** Occupations in which workers can develop skills needed after a short demonstration or up to one month of on-the-job experience and instruction.

The **Current Population Survey (CPS)** is a monthly survey of households conducted by the Bureau of Census for the Bureau of Labor Statistics. It provides a comprehensive body of data on the labor force, employment, unemployment and persons not in the labor force, classified by age, sex, race and a variety of other characteristics. The following definitions are relevant to the use of statistics in this report:

- **Employed persons.** All persons who, during the reference week, (a) did any work at all (at least 1 hour) as paid employees, worked in their own business, profession, or on their own farm, or worked 15 hours or more as unpaid workers in

an enterprise operated by a member of the family, and (b) all those who were not working but who had jobs or businesses from which they were temporarily absent because of vacation, illness, bad weather, childcare problems, maternity or paternity leave, labor-management dispute, job training, or other family or personal reasons, whether or not they were paid for the time off or were seeking other jobs.

Each employed person is counted only once, even if he or she holds more than one job. For purposes of occupation and industry classification, multiple jobholders are counted in the job at which they worked the greatest number of hours during the reference week.

- **Unemployed persons.** All persons who had no employment during the reference week, were available for work, except for temporary illness, and had made specific efforts to find employment sometime during the 4-week period ending with the reference week. Persons who were waiting to be recalled to a job from which they had been laid off need not have been looking for work to be classified as unemployed.
- **Occupation, industry and class of worker.** This information for the employed applies to the job held in the reference week. Persons with two or more jobs are classified in the job at which they worked the greatest number of hours. The unemployed are classified according to their last job. The occupational and industrial classification of CPS data is based on the coding systems used in the 1990 census.

The **Mass Layoff Statistics (MLS) program** has reports on mass layoff actions that result in workers being separated from their jobs. Monthly mass layoff numbers are from establishments which have at least 50 initial claims for unemployment insurance (UI) filed against them during a 5-week period. Extended mass layoff numbers (released quarterly) are from a subset of such establishments – those where the employer indicates that 50 or more people were separated from their jobs for at least 31 days.

Mean wage is an average wage. An occupational mean wage estimate is calculated by summing the wages of all the employees in a given occupation and then dividing the total wages by the number of employees.

Median wage is a boundary. An occupational median wage estimate is the boundary between the highest paid 50 percent and the lowest paid 50 percent of workers in that occupation. Half of the workers in a given occupation earn more than the median wage, and half the workers earn less than the median wage.

Metropolitan Statistical Areas (MSAs). The general concept of an MSA and an SMSA is one of a large population nucleus, together with adjacent communities that have a high degree of economic and social integration with that nucleus. These are defined by the Office of Management and Budget as a standard for Federal agencies in the preparation and publication of statistics relating to metropolitan areas. California MSAs and their labor market data can be accessed at the LMID Website <http://www.calmis.ca.gov/htmlfile/msa.htm>.

Occupational Employment Statistics (OES), 1996 structure is a list of occupational codes and titles used in the Occupational Employment Statistics survey in fall 1996 and the Occupational Projections 1998-2008. The major occupational groups are the following:

- Managerial and Administrative Occupations
- Professional, Paraprofessional, and Technical Occupations
- Sales and Related Occupations
- Clerical and Administrative Support Occupations
- Service Occupations
- Agricultural, Forestry, Fishing, and Related Occupations
- Production, Construction, Operating, Maintenance, and Material Handling Occupations
- For definitions and detailed codes see http://www.calmis.ca.gov/file/oesstructure/oes_stru.htm.

Occupational Employment Statistics (OES) 1980 structure is a list of occupational codes and titles used in the 1990 Census and Current Population Survey. For more detailed information about the six major occupational groups see <http://censtats.census.gov/eeo/eeo.shtml> and select Detailed Occupation by Race, Hispanic Origin & Sex, Occupational Data, then select State, then select a major occupational group. The major occupational groups are the following:

- | | |
|----------------|--|
| ■ 003-199 | Managerial and Professional Specialty Occupations |
| ■ 203-389 | Technical, Sales, and Administrative Support Occupations |
| ■ 403-469 | Service Occupations |
| ■ 473-499 | Farming, Forestry, and Fishing Occupations |
| ■ 503-699 | Precision Production, Craft, and Repair Occupations |
| ■ 703-889 | Operators, Fabricators, and Laborers |
| ■ 000, 903-909 | Experienced Unemployed not Classified by Occupation |

The **Occupational Employment Statistics (OES) survey** is an annual mail survey measuring occupational employment and occupational wage rates for wage and salary workers in nonfarm establishments, by industry. The survey samples about 37,000 establishments per year, taking 3 years to fully collect the sample of approximately 113,000 establishments in California. The 2000 survey is the second year in the current cycle. The California Unemployment Insurance (UI) file provided the universe from which the OES survey drew its sample. The employment benchmark was obtained from reports submitted by employers to the UI program. The wage data for all occupations have been updated to the third quarter of 2001 by applying the Employment Cost Index to the 2000 SOC wage database. The occupational employment estimates are for 2000. A more complete set of technical notes for the 2000 OES survey is available at the BLS website at <http://www.bls.gov/oes/2000/oestec2000.htm>. For California data see the LMID website at [http://www.calmis.ca.gov/file/occup\\$/oeswages/oestechnotes.htm](http://www.calmis.ca.gov/file/occup$/oeswages/oestechnotes.htm).

Occupational Employment Projections provide the expected future change in the number of jobs by occupation by county. Projections by Occupation estimate the changes in occupational employment over time resulting from two principal causes, growth and technology. Changes in the number, size and type of employers within a given geographical area will affect the demand for certain occupations. In addition, technological advances or changes in laws or regulations may affect the occupational mix. Occupational projections are then prepared by applying

industry totals to occupational staffing patterns for each industry. For detailed California occupational projection data see <http://www.calmis.ca.gov/htmlfile/subject/occproj.htm>.

“Openings Due to Separations,” from occupational employment projections, is an estimate of the number of people expected to leave the occupation permanently. Individuals may leave for another occupation, leave the occupation due to retirement or for personal reasons. However, these jobs need to be replaced by workers new to the occupation. If the occupation is expected to lose jobs, some will not be replaced.

Payroll employment, also known as wage and salary jobs, are workers who receive wages, salaries, commissions, tips, payment in kind, or piece rates. The group includes employees in both the private and public sectors. It excludes the self-employed. Multiple jobholders are counted once by each employer.

Percentile wage estimate shows what percentage of workers in an occupation earn less than a given wage and what percentage earn more. For example, a 25th percentile wage of \$15.00 indicates that 25% of workers (in a given occupation in a given area) earn less than \$15.00; therefore 75% of workers earn more than \$15.00.

Seasonal adjustment removes the effects of events that follow a more or less regular pattern each year. These adjustments make it easier to observe the cyclical and other non-seasonal movements in a data series. Not seasonally adjusted describes data series not subject to the seasonal adjustment process. In other words, the effects of regular, or seasonal, patterns have not been removed from these series.

Staffing Patterns are a list of the occupations employed within a particular industry, or a list of the industries that employ a particular occupation. Job seekers or training providers may use these lists to contact appropriate employers for job openings. Employers or economic developers may use these lists to determine the kinds of jobs they need in a particular company or business. For more information on staffing patterns see <http://www.calmis.ca.gov/file/iomatrix/staffing-patterns1.htm>.

Standard Industrial Classification (SIC) system is used throughout the federal government to group establishments into industries. The SIC Division Structure makes it possible to collect and calculate establishment data by broad industrial divisions (labeled A through K), industrial groups (the 2-and 3-digit SIC levels), and specific industries (the 4-digit level). Classifications are set out by the Executive Office of the President, Office of Management and Budget. The SIC system is being phased out over several years by the North American Industry Classification System (NAICS). The following are the broad industrial divisions used in this report:

- **Mining** includes all establishments involved in the extraction of minerals, crude petroleum and natural gas. It includes quarrying, well operations, milling and other related activities.
- **Construction** includes establishments engaged in contract construction. This includes new work, additions, alterations, and repairs performed by general and special trade contractors.
- **Manufacturing** includes establishments that are usually described as plants, factories or mills that are engaged in producing or processing non-durable or durable goods. These characteristically use power-driven machines and material-handling equipment.
- **Transportation and Public Utilities** includes enterprises engaged in passenger and freight transportation by surface, water, air; trucking and warehousing; and other transportation services. It also includes the communications complex of telephone,

telegraph, radio and television; and the utilities providing gas, electric, and sanitary services.

Wholesale Trade includes establishments involved in the selling of merchandise to retailers; to industrial, commercial, farm, construction contractors or professional business users; or to other wholesalers.

Retail Trade includes establishments involved in the selling of merchandise for personal or household consumption and rendering services incidental to the sale of goods.

Finance, Insurance, and Real Estate includes banks, savings and loan institutions, and security and commodity brokerages, insurance agencies and carriers, real estate sales and management offices, and rental and planning agencies.

Services includes establishments such as hotels, laundries, auto repair shops, theaters, legal services, advertising services, private schools, and hospitals, and nonprofit organizations which are engaged in rendering a variety of services to individuals and businesses.

Government includes the legislative, judicial, administrative, and regulatory activities of federal, state, local, and international governments. It also includes federal, state and local government hospitals, and education.

The **Standard Occupational Classification (SOC)** system will be used by all Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 23 major groups, 96 minor groups and 449 broad occupations. Each broad occupation includes detailed occupation(s) requiring similar job duties, skills, education or experience. For more information about the SOC classification and coding structure see <http://www.bls.gov/soc/socguide.htm>. The major groups are the following:

- 11-0000 Management Occupations
- 13-0000 Business and Financial Operations Occupations
- 15-0000 Computer and Mathematical Occupations
- 17-0000 Architecture and Engineering Occupations
- 19-0000 Life, Physical, and Social Science Occupations
- 21-0000 Community and Social Services Occupations
- 23-0000 Legal Occupations
- 25-0000 Education, Training, and Library Occupations
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
- 29-0000 Healthcare Practitioners and Technical Occupations
- 31-0000 Healthcare Support Occupations
- 33-0000 Protective Service Occupations
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations
- 41-0000 Sales and Related Occupations
- 43-0000 Office and Administrative Support Occupations
- 45-0000 Farming, Fishing, and Forestry Occupations
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations
- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations
- 55-0000 Military Specific Occupations

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